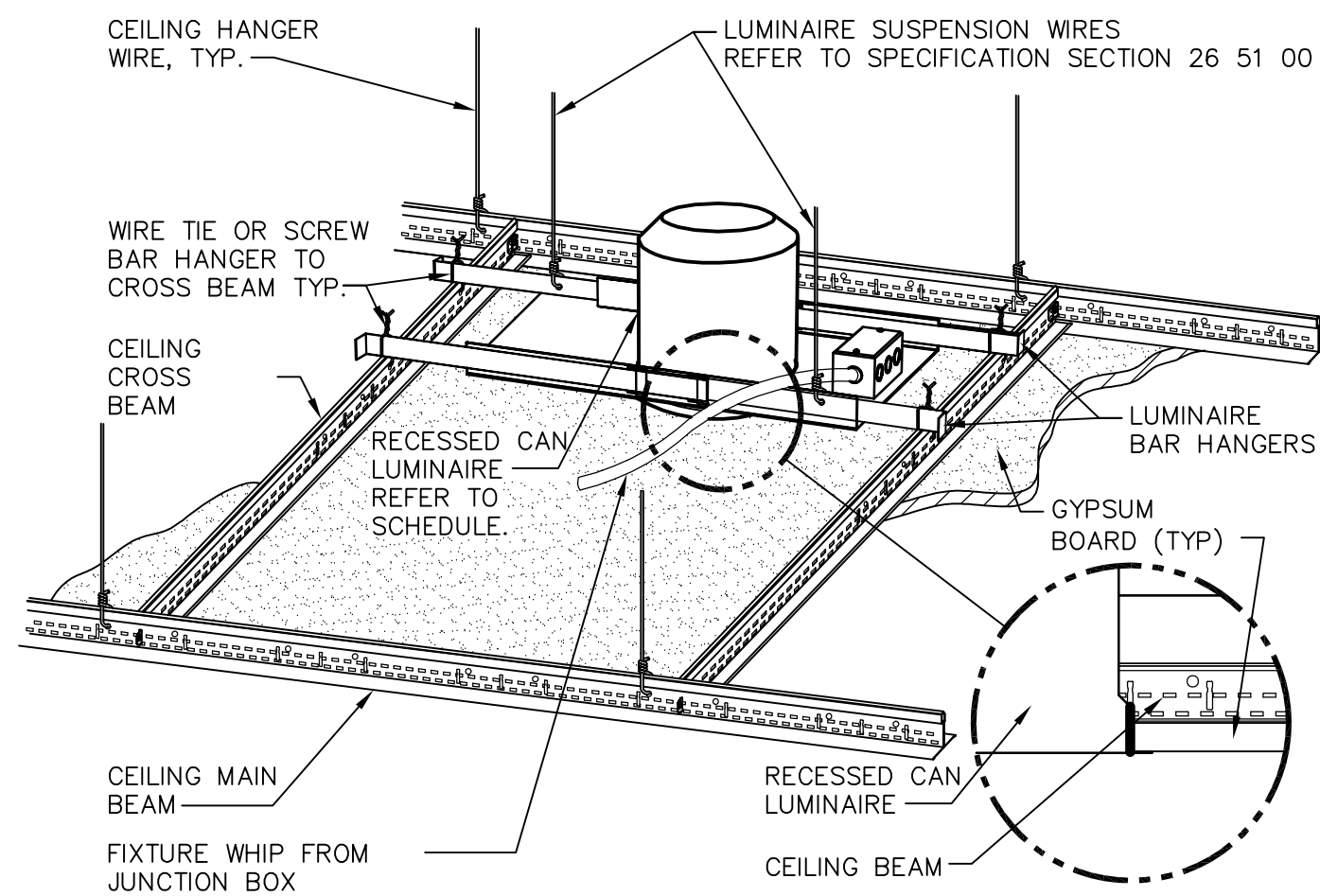


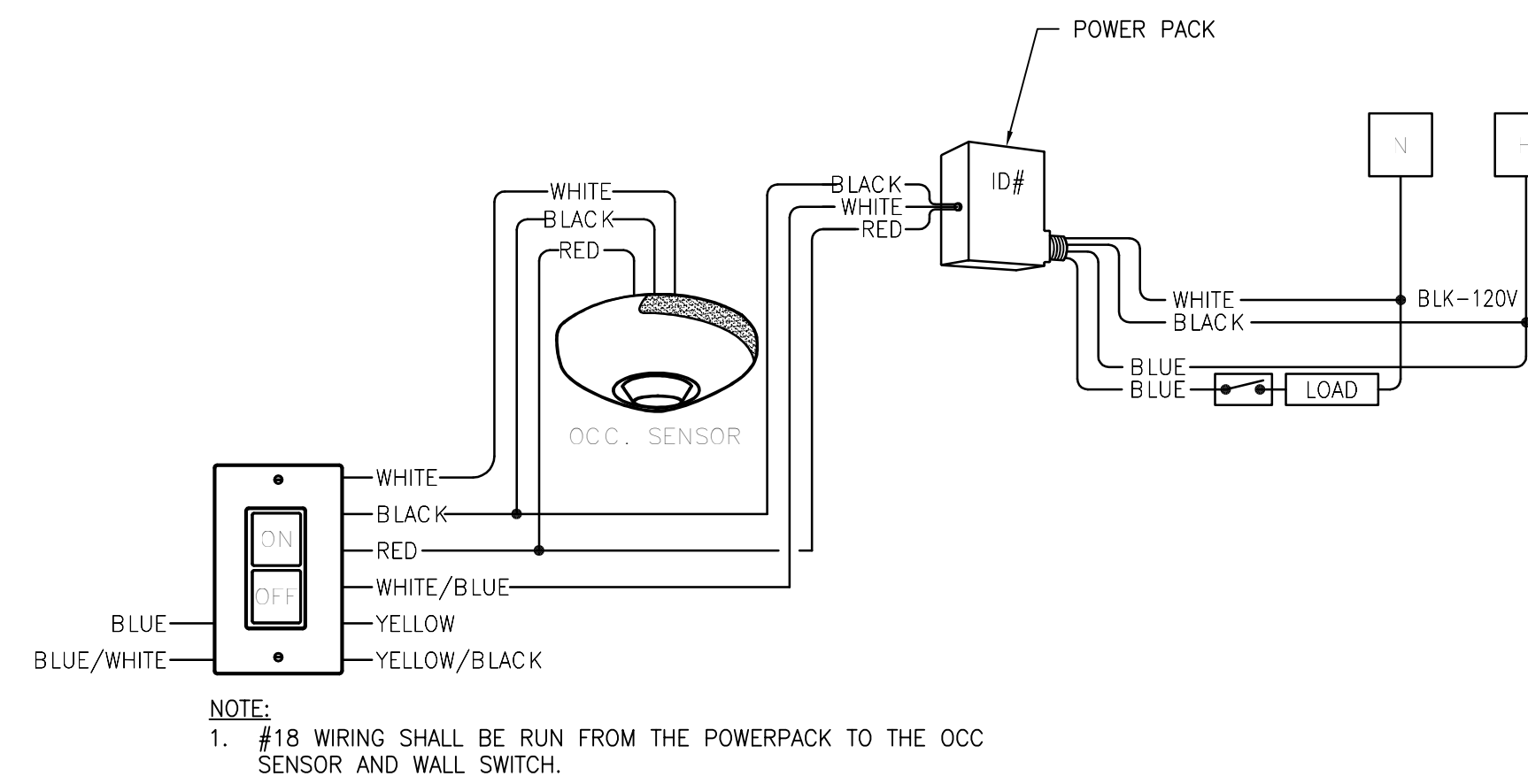
GENERAL NOTE:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

1 LUMINAIRE MOUNTING - LAY-IN CEILING DETAIL, TYP.
SCALE: NTS



GENERAL NOTE:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

2 DOWNLIGHT MOUNTING - GYPBOARD CEILING DETAIL, TYP.
SCALE: NTS



NOTE:
1. #18 WIRING SHALL BE RUN FROM THE POWERPACK TO THE OCC SENSOR AND WALL SWITCH.

3 TYPICAL - OCCUPANCY SENSOR/LOW VOLTAGE SWITCH DETAIL
SCALE: NTS



NOTES:
1. 10" X 14" [254 X 356] WARNING SIGN, 0.040" [1] RUST-FREE ALUMINUM WITH (4) #10 SCREWS.
2. AVERAGE TEXT SIZE OF 1-1/8" [30].
3. SIGN SHALL BE LAMINATED AND MEET OSHA REQUIREMENTS.
4. MOUNT SIGN AS INDICATED ON DRAWINGS, BOTTOM OF SIGN SHALL BE 60" AFF [1524].

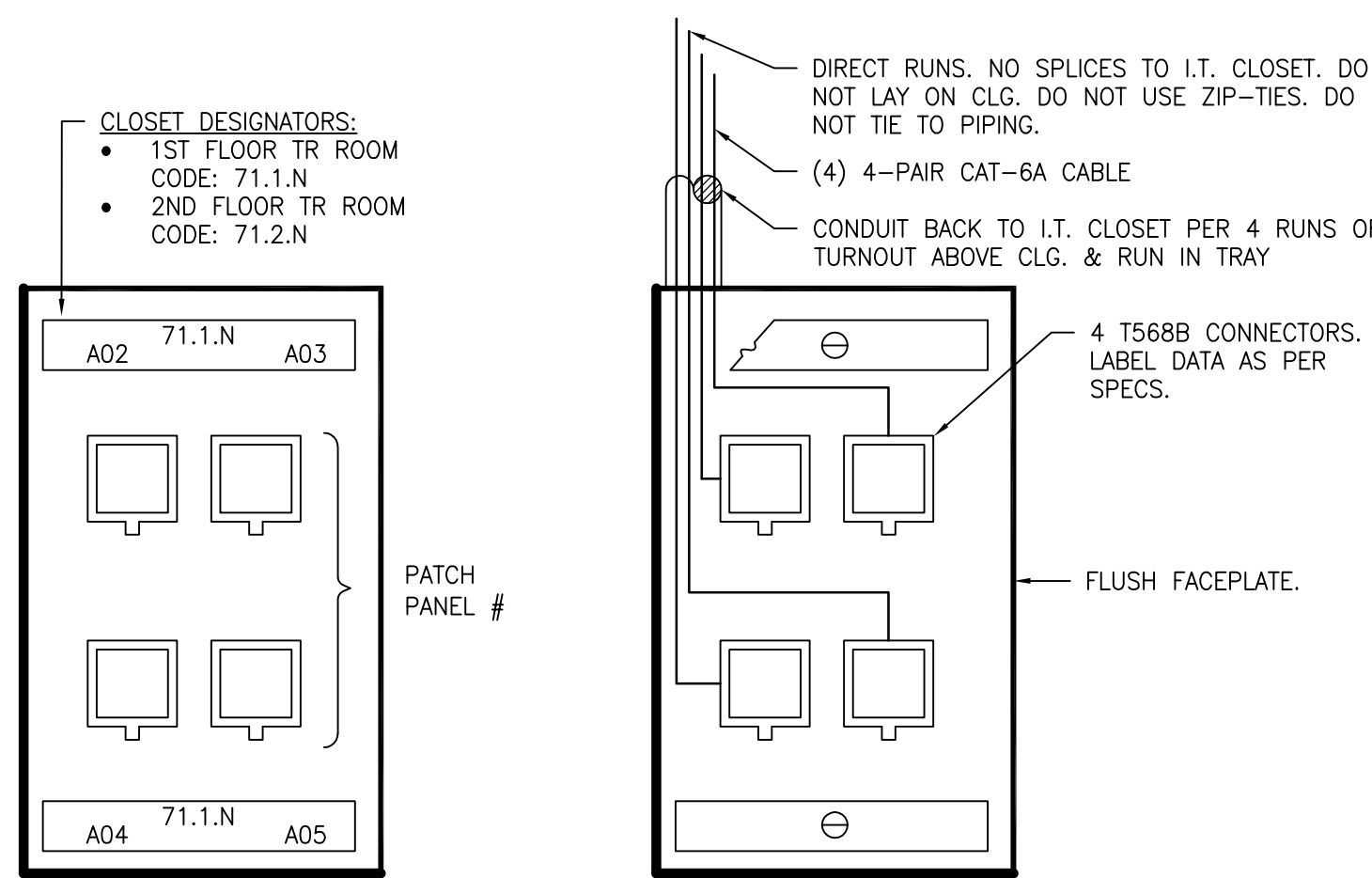
4 WARNING SIGN
SCALE: NTS

SYSTEMS CABLING SPECIFICATIONS		
SYSTEM (APPLICATION)	SHEATH COLOR	RACEWAY COLOR
1. DATA	ORANGE	NONE
2. VOICE	WHITE	NONE
3. WIRELESS NETWORK	GREEN/TEAL	NONE
4. CAMERA (SSTV)	VIOLET	NONE
5. PACS	BLACK	NONE

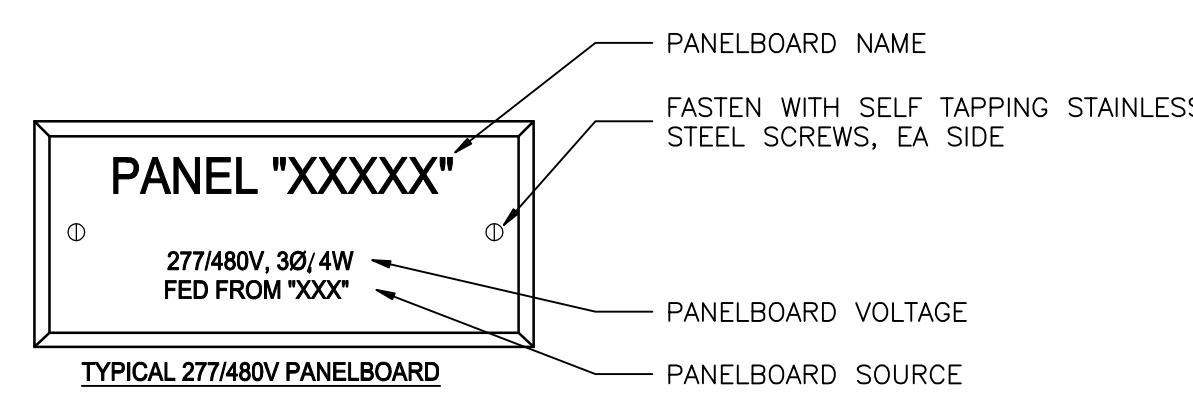
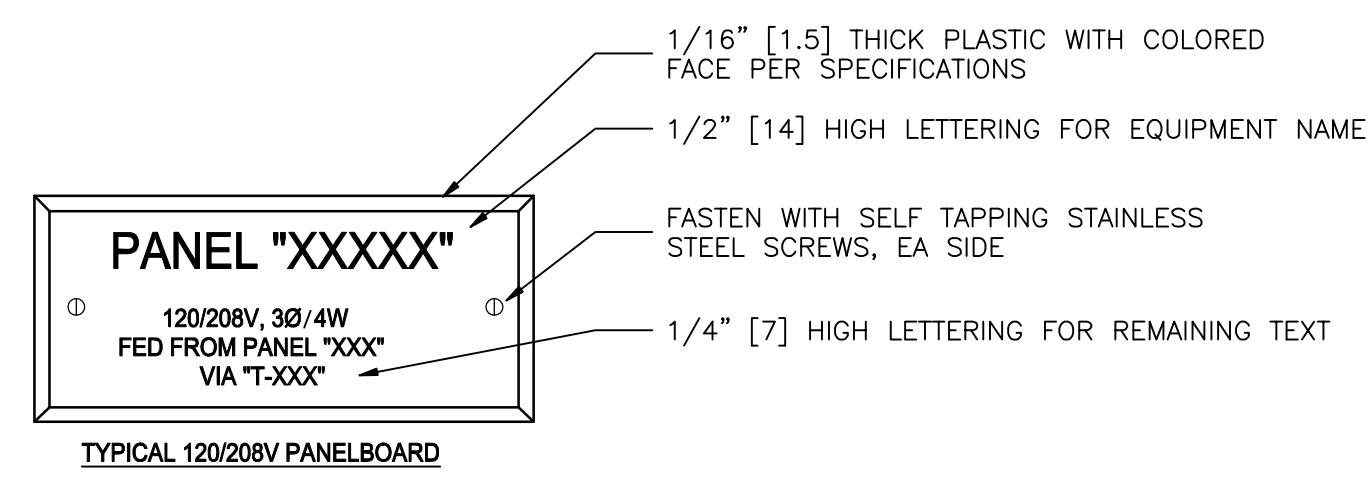
COMMUNICATION CABLE GUIDELINES:

- ALL CABLES SHALL BE UNSHIELDED TWISTED 4-PAIR, RATED CAT-6A. CONFIRM SHEATH COLOR WITH VA.
- ALL DATA CABLES SHALL BE TERMINATED ON CAT-6A RATED PANELS (RJ-45) PER EIA/TIA-568B WIRING CONFIGURATION.
- ALL VOICE CABLES SHALL BE TERMINATED INTO CAT-6A 110 BLOCKS AND RACK-MOUNTED.
- ALL CABLES SHALL BE NUMERICALLY LABELED (MECHANICALLY STENCILED IN BLACK INK (NOT HAND-WRITTEN) ON BOTH ENDS). LABEL NOMENCLATURE SHALL FOLLOW LOCAL VA STANDARDS.
- FIBER SHALL BE TERMINATED USING "LC" TYPE CONNECTORS IN AN ENCLOSED FIBER BOX WITH SERVICE LOOP MOUNTED INTO DATA RACK.
- MINIMUM FIBER SPECIFICATION SHALL BE OM4, MULTIMODE, 62.5 MICRON.
- ALL MATERIALS SELECTED FOR USE BY THE CONTRACTOR SHALL BE APPROVED BY VA TELECOMMUNICATIONS DEPARTMENT PRIOR TO THEIR INSTALLATION. ARRANGE A COORDINATION MEETING TO REVIEW SUBMITTALS AND PROVIDE A WRITTEN CERTIFICATION LETTER WITH SUBMITTALS STATING THAT THE LOCAL VA HAS APPROVED SUBMITTALS.
- ALL WALL JACK LOCATIONS AND LABELING SHALL BE RECORDED ON FINAL RECORD DRAWINGS.
- ALL SECURITY SYSTEM CABLE AND WIRE (SSTV AND PACS) SHALL BE IN CONDUIT. THIS REQUIREMENT SUPERCEDES SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENT INSTRUCTIONS, SPECIFICATIONS OR DETAILS.
- ALL TELECOMMUNICATIONS SYSTEM CABLE AND WIRING SHALL BE IN CONDUIT, CABLE TRAY, WIREWAY OR CABLE DUCT. NO OTHER WIRING METHOD IS APPROVED.

5 SYSTEMS CABLING SPECIFICATIONS
SCALE: NTS

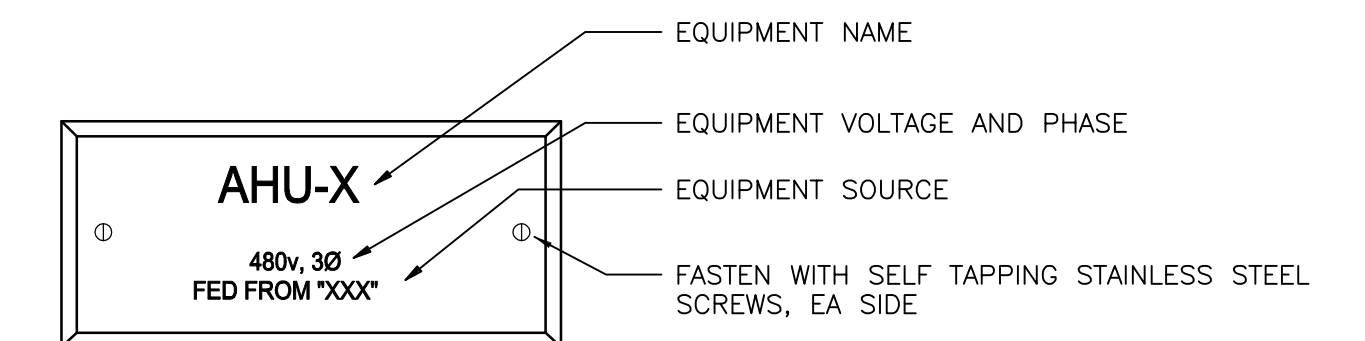
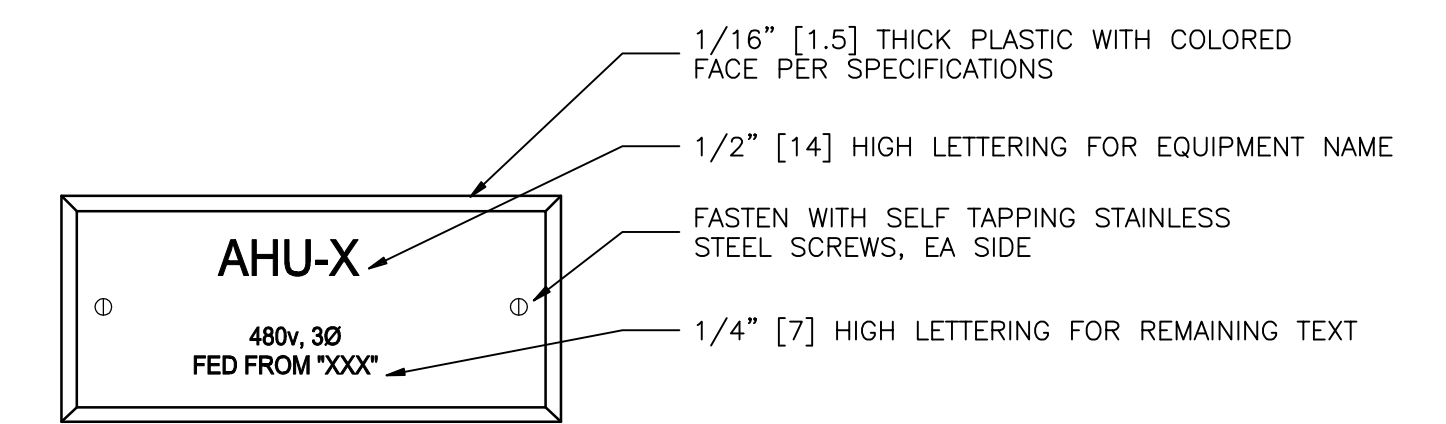


6 TELEPHONE/DATA OUTLET DETAIL, TYP.
SCALE: NTS



LABEL COLOR:
1. LABELS FOR EMERGENCY POWER SHALL BE RED WITH ENGRAVED WHITE LETTERS.
2. LABELS FOR NORMAL POWER SHALL BE BLACK WITH ENGRAVED WHITE LETTERS.

7 PANELBOARD LABELS
SCALE: NTS



LABEL COLOR:
1. LABELS FOR EQUIPMENT FED BY EMERGENCY POWER SHALL BE RED WITH ENGRAVED WHITE LETTERS.
2. LABELS FOR EQUIPMENT FED BY NORMAL POWER SHALL BE BLACK WITH ENGRAVED WHITE LETTERS.

8 EQUIPMENT LABELS
SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

CONSULTANTS

HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6550	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246
CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891	ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)936-2990
ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business
1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)429-4000
FAX: (856)429-5022
MR PROJECT NO: 0499-0121

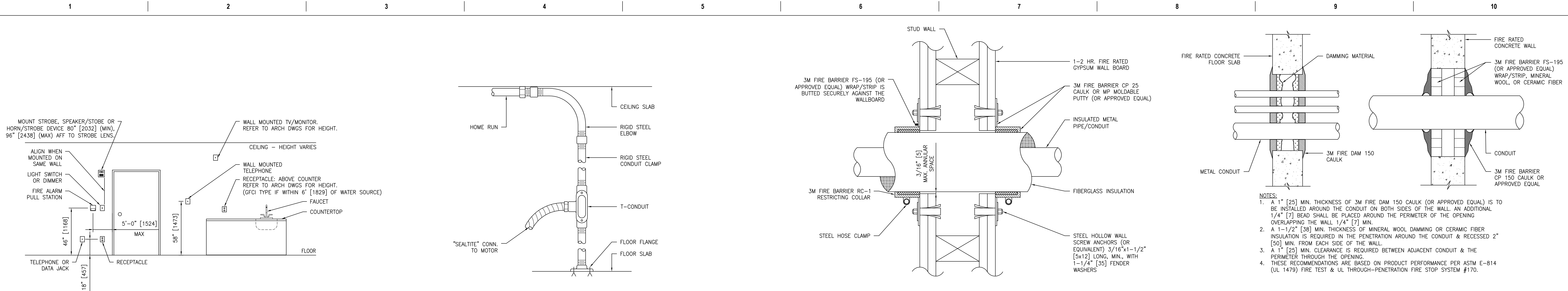
MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ANTHONY D. PACIRO
LICENSED PROFESSIONAL ENGINEER
KANSAS
26413
9.3.2021

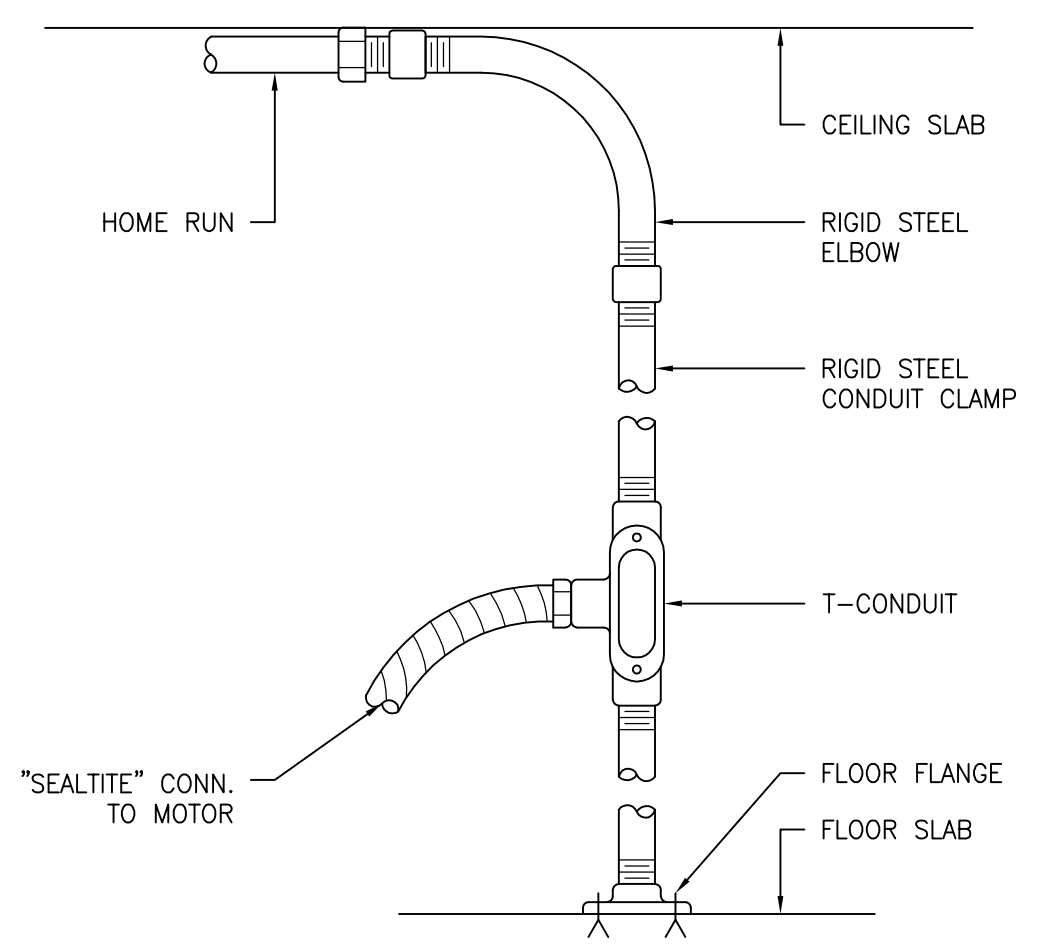
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL DETAILS	Phase 100% BID SET
Approved: Project Director	Project Title INSTALL NEW BOILERS IN BUILDING 13
	Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS
	Issue Date 2021-09-03
	Checked ARH
	Drawn ARH
	Project Number 589A7-18-302
	Building Number
	Drawing Number E-501

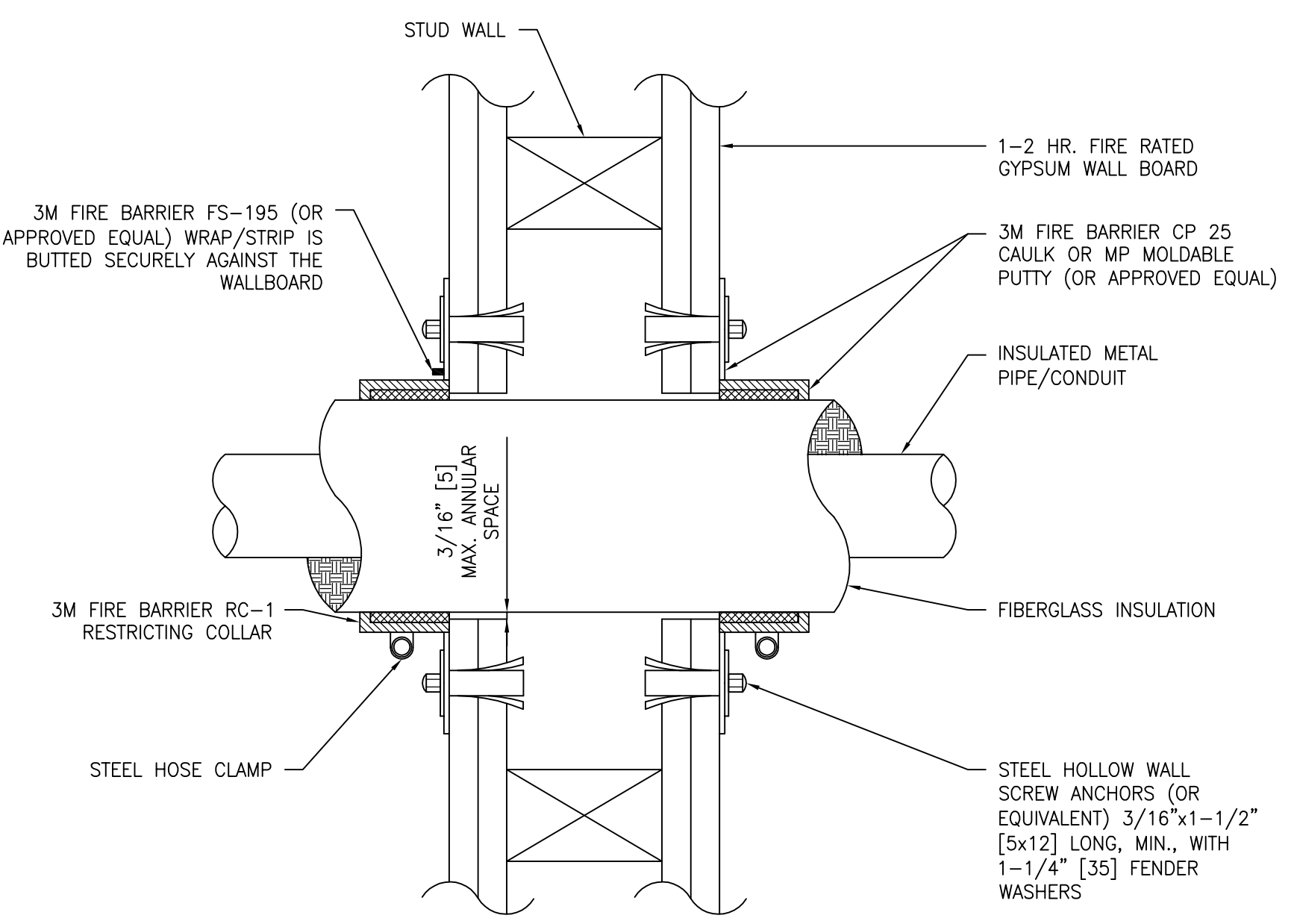
Project Title INSTALL NEW BOILERS IN BUILDING 13	Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS	Issue Date 2021-09-03	Checked ARH	Drawn ARH	Project Number 589A7-18-302
					Building Number
					Drawing Number E-501



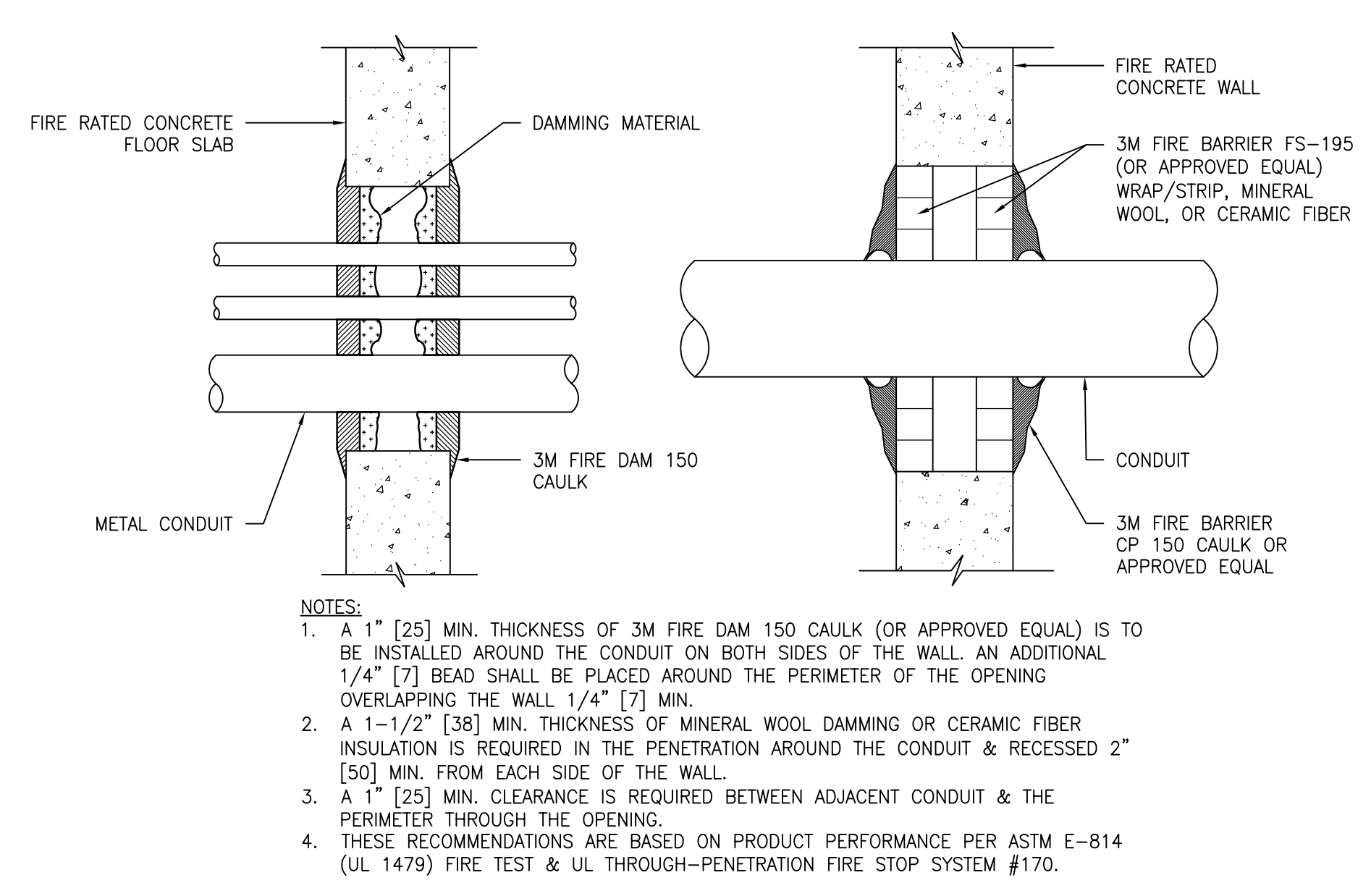
1 TYPICAL DEVICE MOUNTING HEIGHTS
SCALE: NTS
ALL DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED.



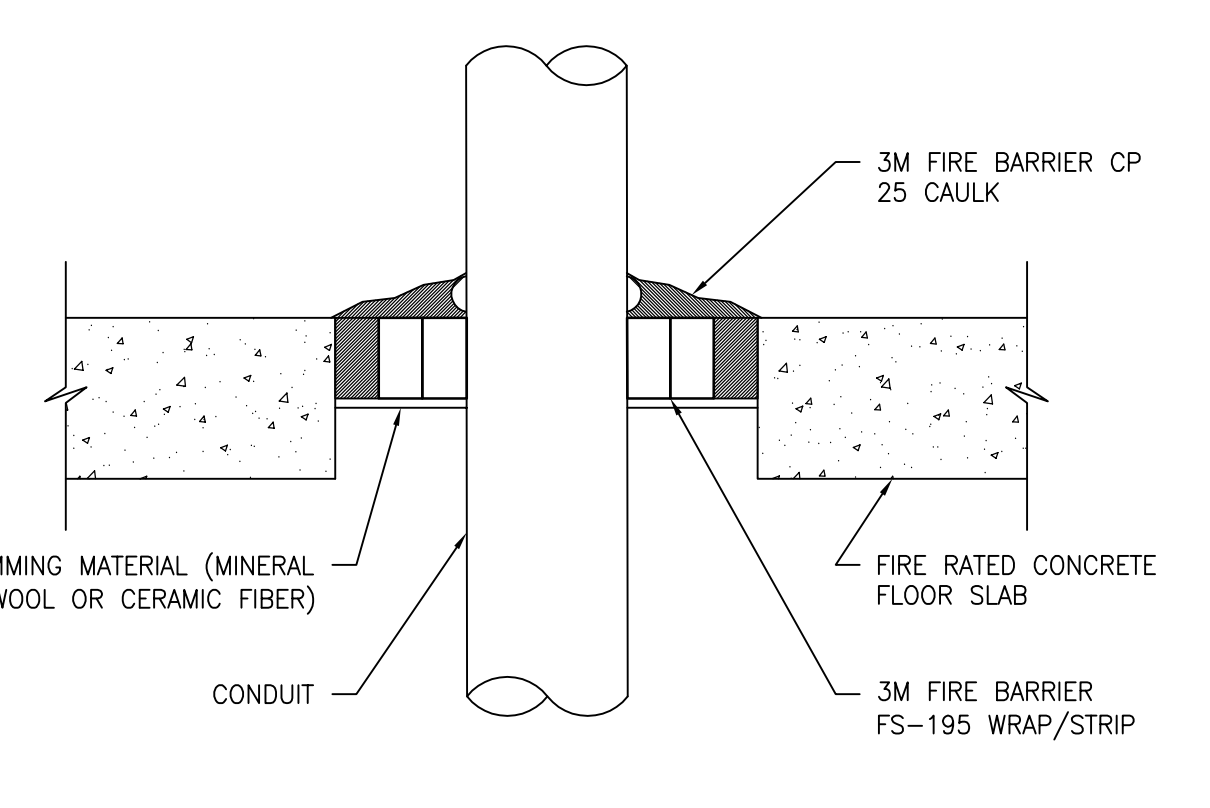
2 CONDUIT - OVERHEAD DROP DETAIL, TYP.
SCALE: NTS



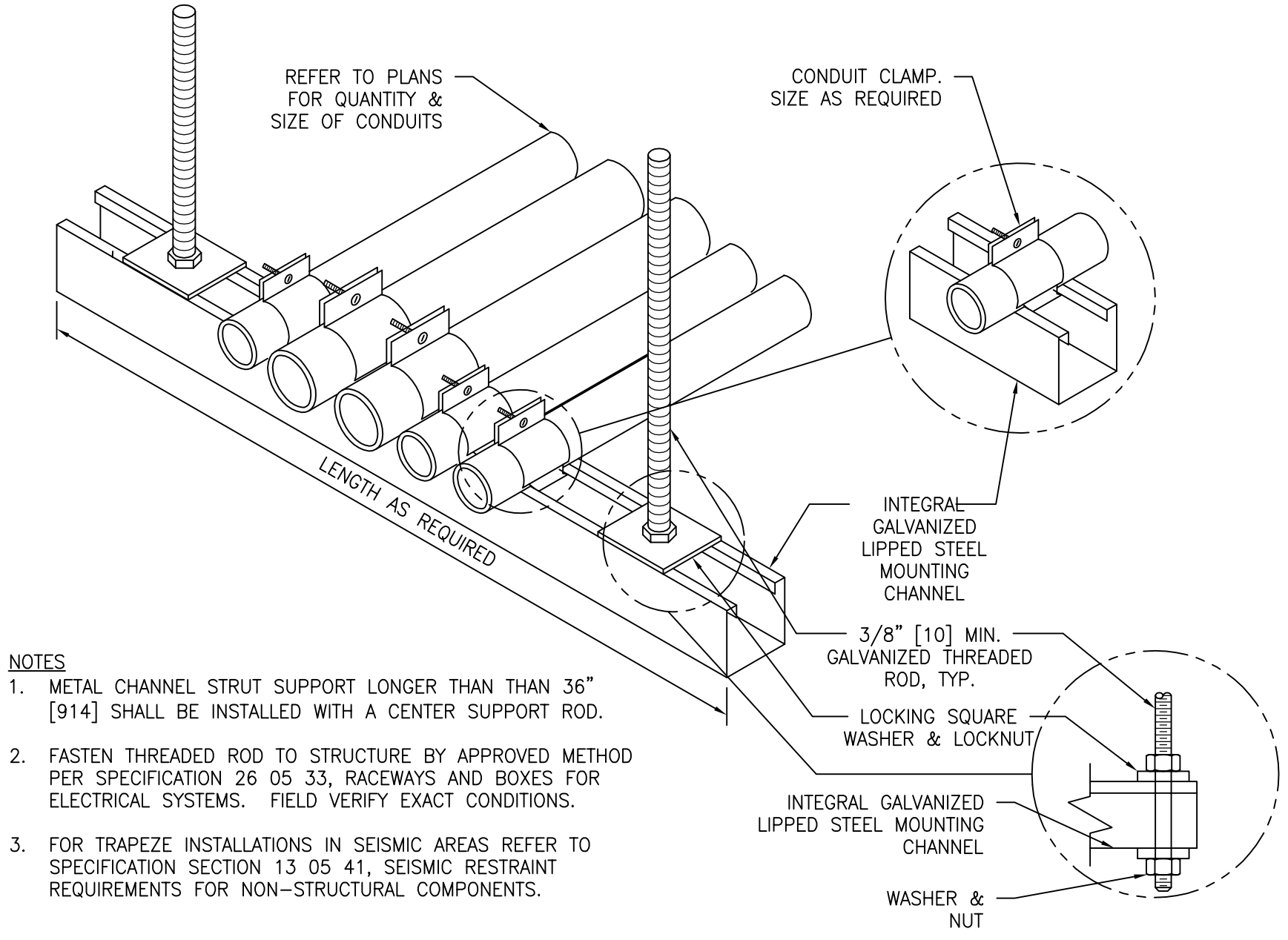
3 FIRE STOP FOR CONDUIT PENETRATION THROUGH GYPSUM BOARD, TYP.
SCALE: NTS



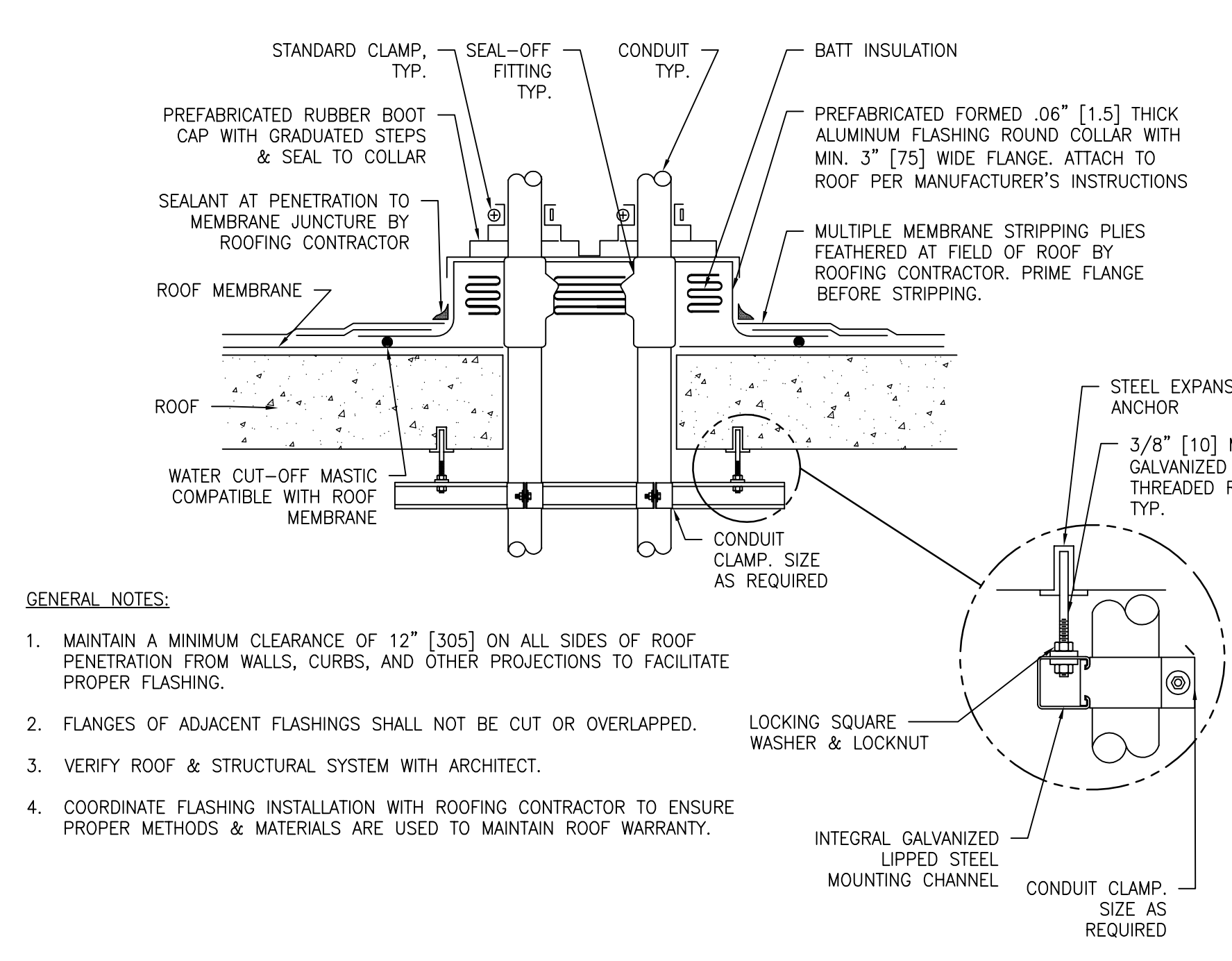
4 PENETRATION FIRE STOP FOR CONDUIT THROUGH CONCRETE, TYP.
SCALE: NTS



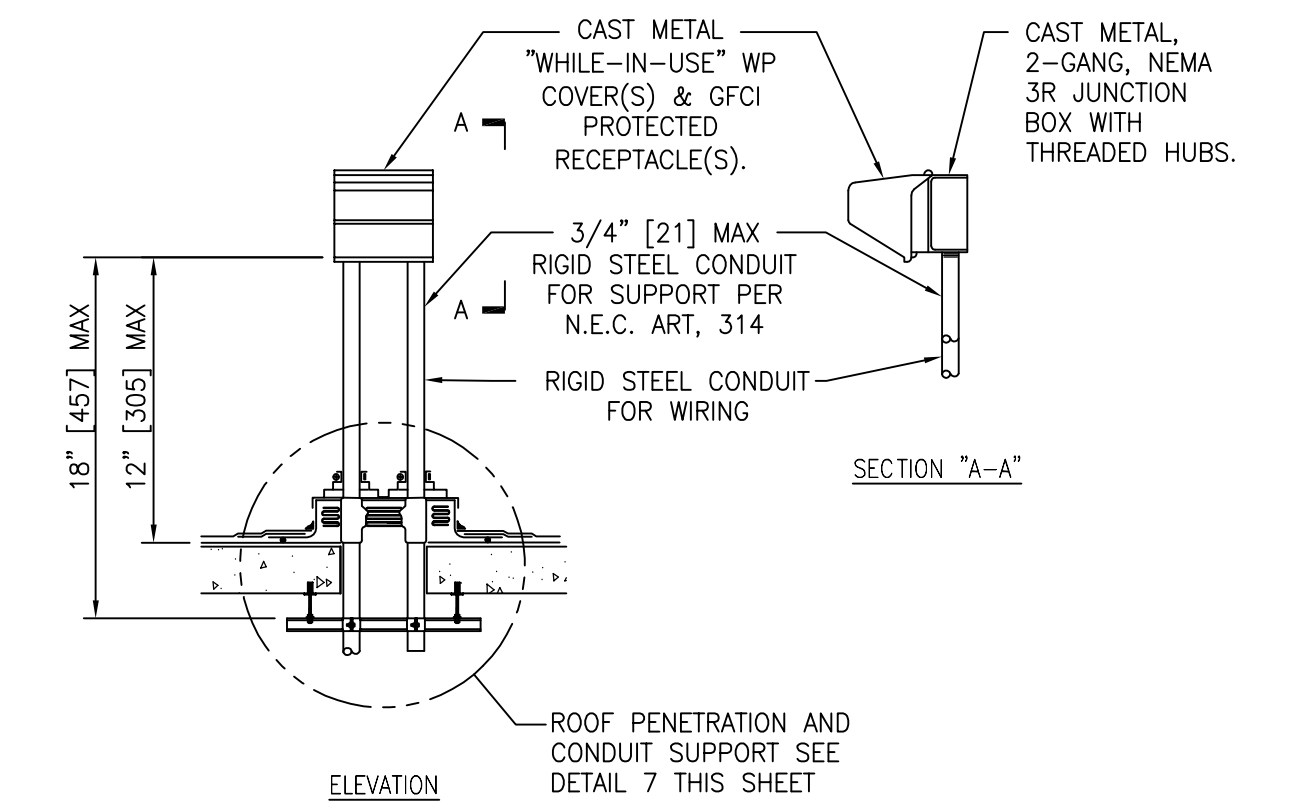
5 PENETRATION FIRE STOP FOR CONDUIT THROUGH FIRE-RATED FLOOR SLAB, TYP.
SCALE: NTS



6 CONDUIT TRAPEZE MOUNTING DETAIL, TYP.
SCALE: NTS



7 ROOF PENETRATION DETAIL, TYP.
SCALE: NTS



8 RECEPTACLE ROOF MOUNTING DETAIL, TYP.
SCALE: NTS

NOTES:
1. THE MAX. ANNULAR SPACE TO BE FILLED IS 3" [75], & THE MIN. ANNULAR SPACE IS 3/4" [21].
2. FS-195 WRAP/STRIPS ARE FRICTION FIT INTO THE OPENING OR SECURED WITH 16 GA. STEEL TIE WIRE OR ALUMINUM FOIL TAPE & SLID INTO THE OPENING WITH A MIN. 1/4" [7] BEAD OF CP 25 CAULK.
3. THE MIN. ANNULAR SPACE MUST ACCOMMODATE THE MIN. NUMBER OF FS-195 WRAP/STRIPS REQUIRED PER INSULATION THICKNESS. SEE TABLE 1 BELOW.

WRAP	CAULK	INSULATION
1 WRAP	1" [25] DEPTH	1" [25] THICK
2 WRAP	2" [50] DEPTH	2" [50] THICK
3 WRAP	3" [75] DEPTH	3" [75] THICK

NOTES:
1. METAL CHANNEL STRUT SUPPORT LONGER THAN 36" [914] SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD PER SPECIFICATION 26 05 33, RACKWAYS AND BOXES FOR ELECTRICAL SYSTEMS. FIELD VERIFY EXACT CONDITIONS.
3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO SPECIFICATION SECTION 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

GENERAL NOTES:
1. MAINTAIN A MINIMUM CLEARANCE OF 12" [305] ON ALL SIDES OF ROOF PENETRATION FROM WALLS, CURBS, AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING.
2. FLANGES OF ADJACENT FLASHINGS SHALL NOT BE CUT OR OVERLAPPED.
3. VERIFY ROOF & STRUCTURAL SYSTEM WITH ARCHITECT.
4. COORDINATE FLASHING INSTALLATION WITH ROOFING CONTRACTOR TO ENSURE PROPER METHODS & MATERIALS ARE USED TO MAINTAIN ROOF WARRANTY.

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS

HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-0550	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246
CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881	ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990
ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD. UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business
1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)429-4000
FAX: (856)429-9002
MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ANTHONY D. PACIARO
LICENSED PROFESSIONAL ENGINEER
26413
KANSAS
9.3.2021

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
ELECTRICAL DETAILS

Approved: Project Director

Phase
100% BID SET

FULLY SPRINKLERED

Project Title
INSTALL NEW BOILERS IN BUILDING 13

Location
ROBERT J. DOLE VA MEDICAL CENTER
WICHITA, KANSAS

Issue Date
2021-09-03

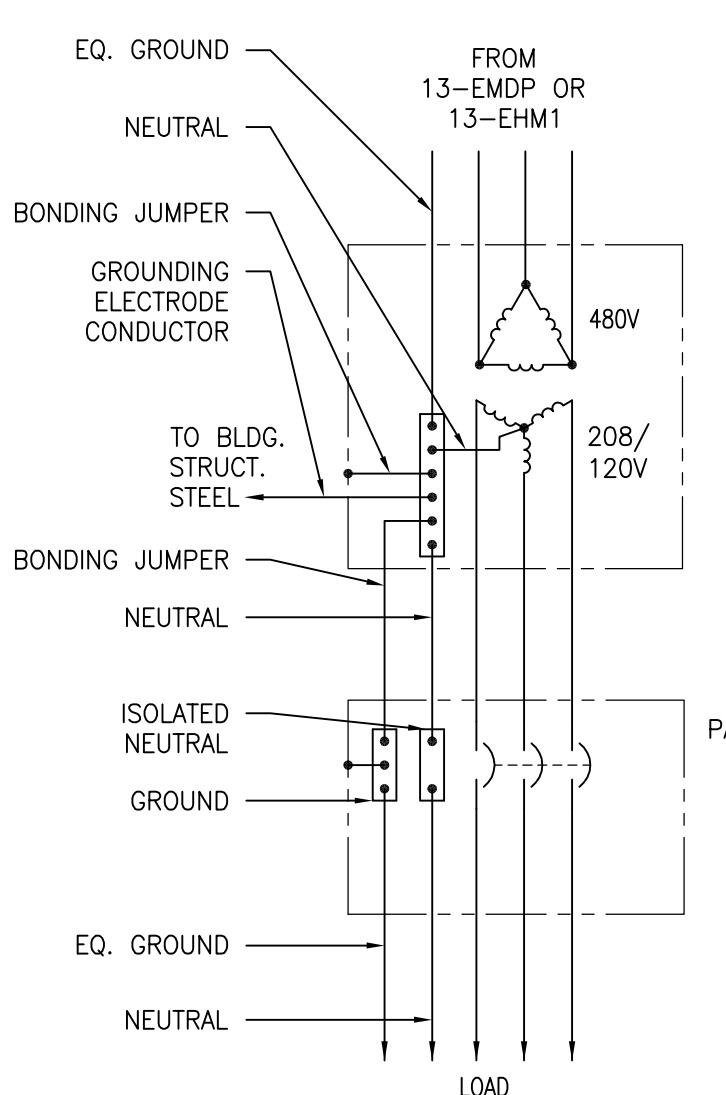
Checked
ARH

Drawn
ARH

Project Number
589A7-18-302

Building Number

Drawing Number
E-502

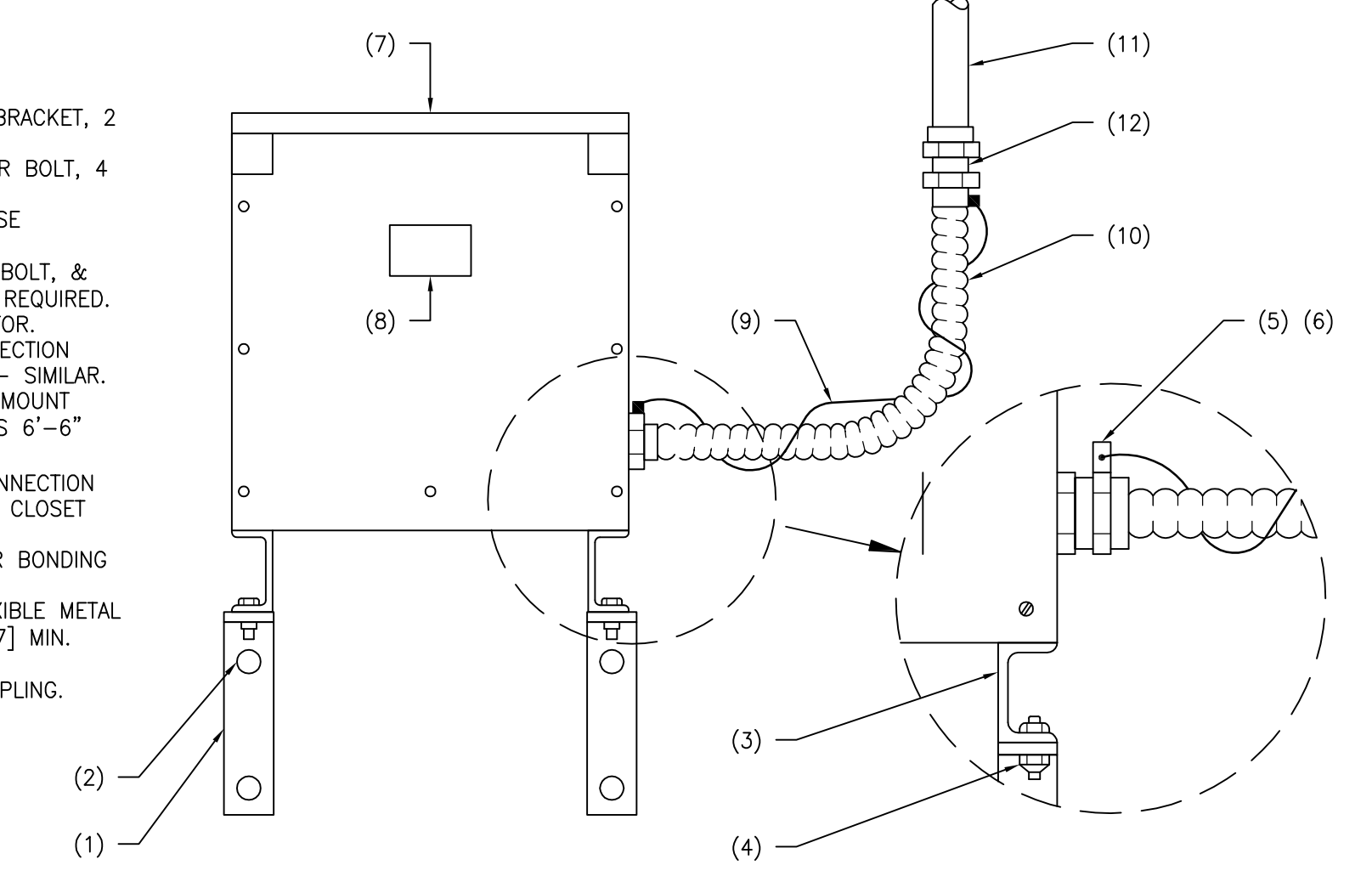


	TRANSFORMER SIZE				
	15 kVA	30 kVA	45 kVA	75 kVA	112.5 kVA
PRIMARY CIRCUIT BREAKER	30 A	50 A	70 A	125 A	175 A
SECONDARY CIRCUIT BREAKER	60 A	100 A	150 A	250 A	400 A
PRIMARY EQUIPMENT GROUND	#10	#10	#8	#6	#6
GRND ELECTRODE / BONDING JUMPER	#8	#8	#6	#2	#1/0
SECONDARY EQUIPMENT GROUND	#10	#8	#6	#4	

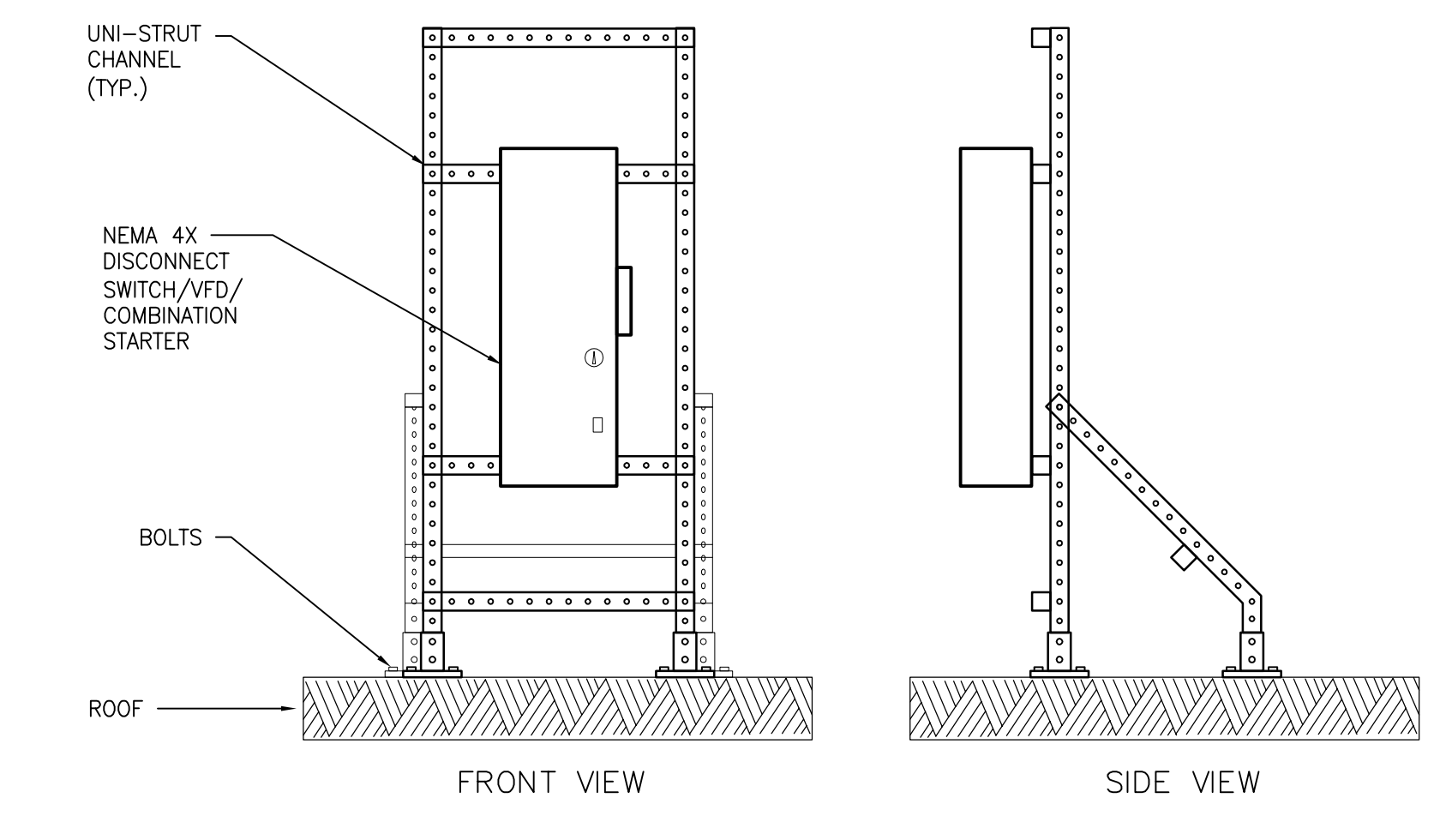
THE CONTRACTOR SHALL VERIFY THE WIRE SIZES WITH THE ENGINEER WHEN THE RATING OF THE PRIMARY OR SECONDARY CIRCUIT BREAKER IS DIFFERENT FROM THE DRAWINGS.

1 TYPICAL TRANSFORMER GROUNDING DETAIL
SCALE: NTS

- REFERENCE NOTES:
1. WALL-MOUNTING BRACKET, 2 REQUIRED.
 2. CONCRETE ANCHOR BOLT, 4 REQUIRED.
 3. TRANSFORMER BASE CHANNEL.
 4. 1/2" [12] NUT, BOLT, & LOCK WASHER, 6 REQUIRED.
 5. GROUND CONNECTOR.
 6. SECONDARY CONNECTION DETAIL, PRIMARY - SIMILAR.
 7. TRANSFORMER - MOUNT BOTTOM SUPPORTS 6'-6" [1981] AFF.
 8. NAMEPLATE - CONNECTION DIAGRAM TO FACE CLOSET ENTRANCE.
 9. EXTERNAL COPPER BONDING WIRE.
 10. LIQUID TIGHT FLEXIBLE METAL CONDUIT 1/2" [457] MIN.
 11. RIGID CONDUIT.
 12. COMBINATION COUPLING.

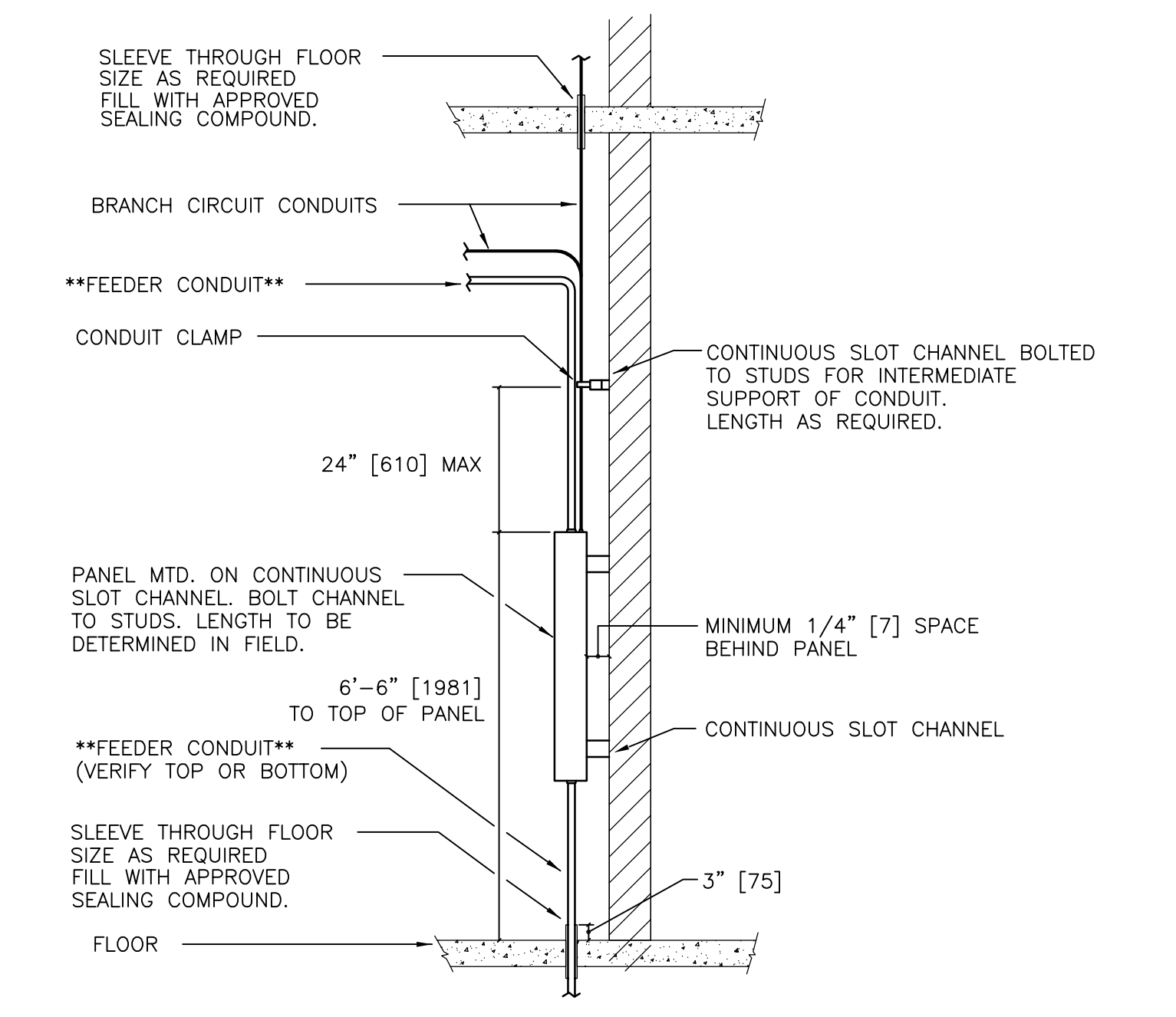


2 TRANSFORMER MOUNTING DETAIL - WALL
SCALE: NTS

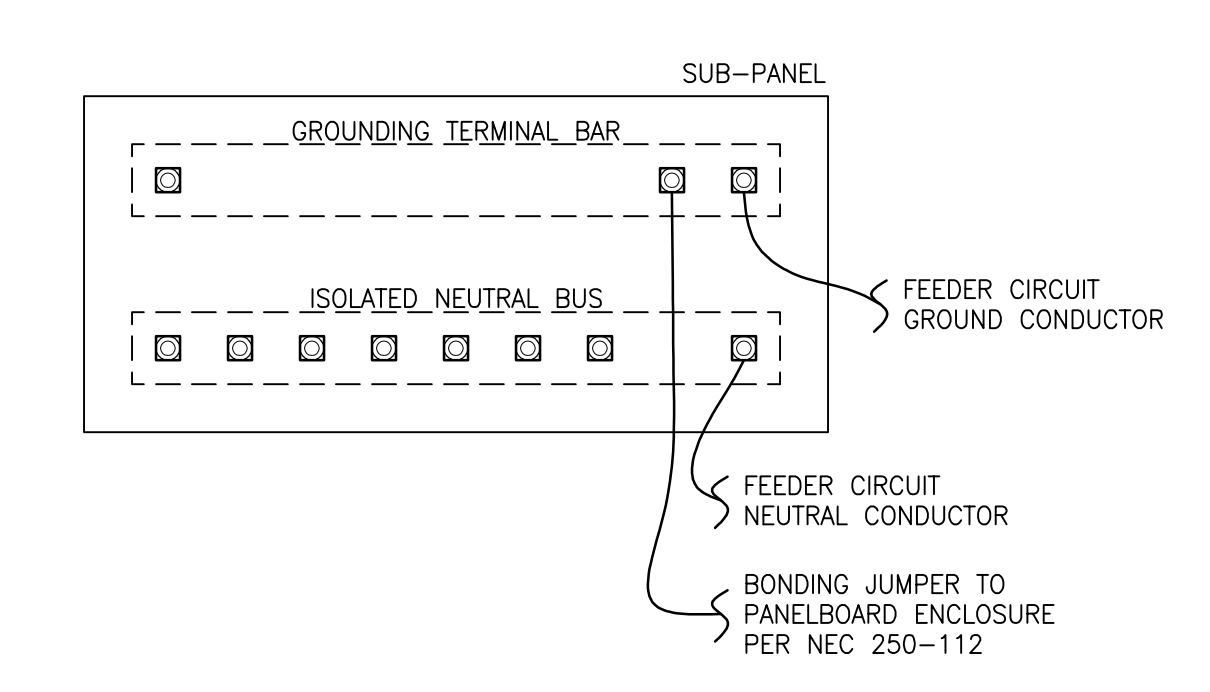


- NOTES:
1. FINAL DESIGN BY CONTRACTOR'S SEISMIC ENGINEER. REFER TO SHEET S-001 FOR SEISMIC DESIGN CATEGORY AND REQUIREMENTS.
 2. ALL UNI-STRUT CHANNEL AND HARDWARE SHALL BE GALVANIZED STEEL SUITABLE FOR OUTDOOR USE.
 3. APPLY WEATHER CORROSION PROTECTION ON FRAME AND COMPONENTS.
 4. COMPLY WITH ROOF MEMBRANE MANUFACTURER'S REQUIREMENTS WHEN SECURING FRAME TO ROOF.

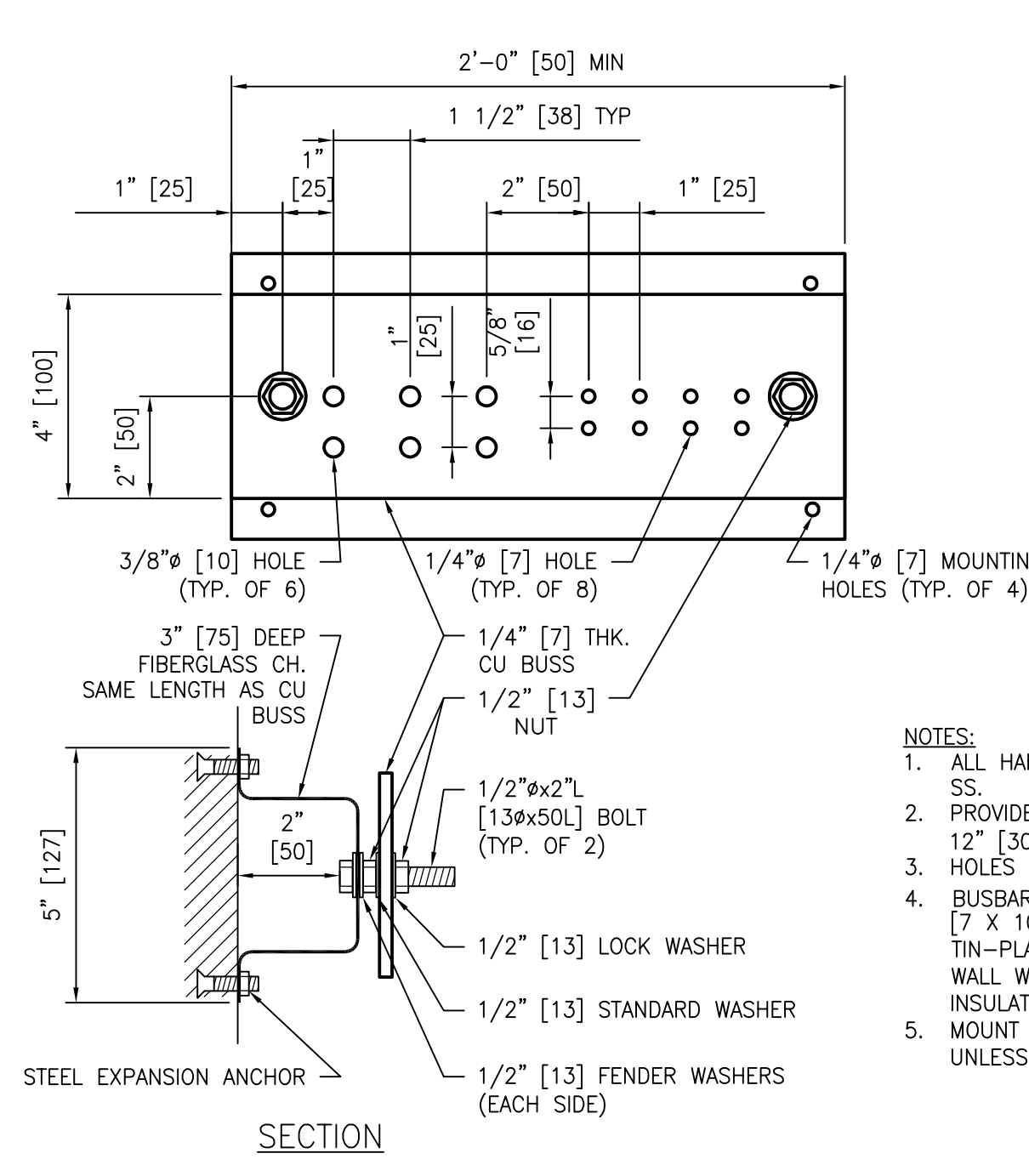
3 DISCONNECT SWITCH ROOF MOUNTING DETAIL
SCALE: NTS



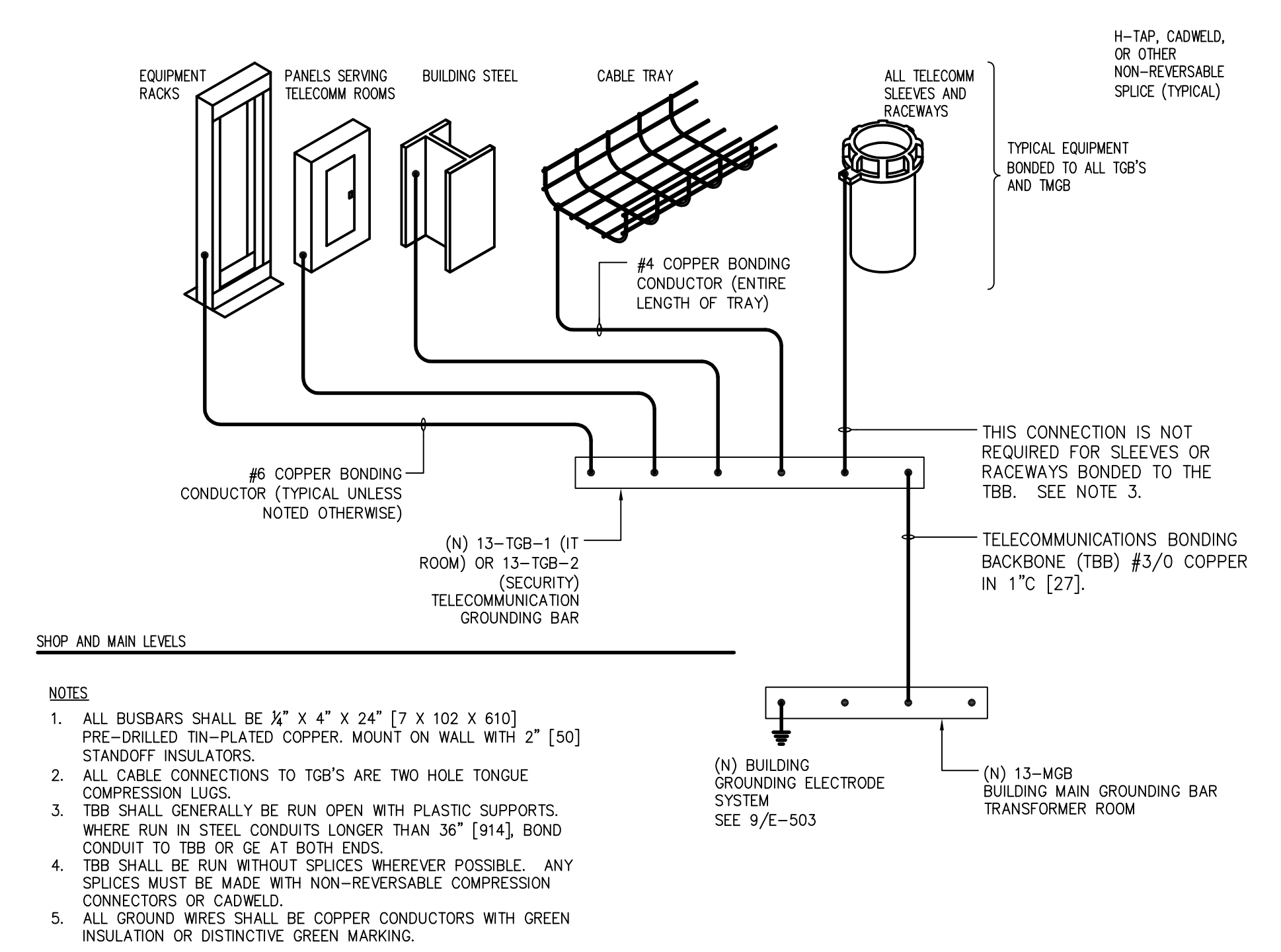
4 TYPICAL PANELBOARD MOUNTING DETAIL
SCALE: NTS



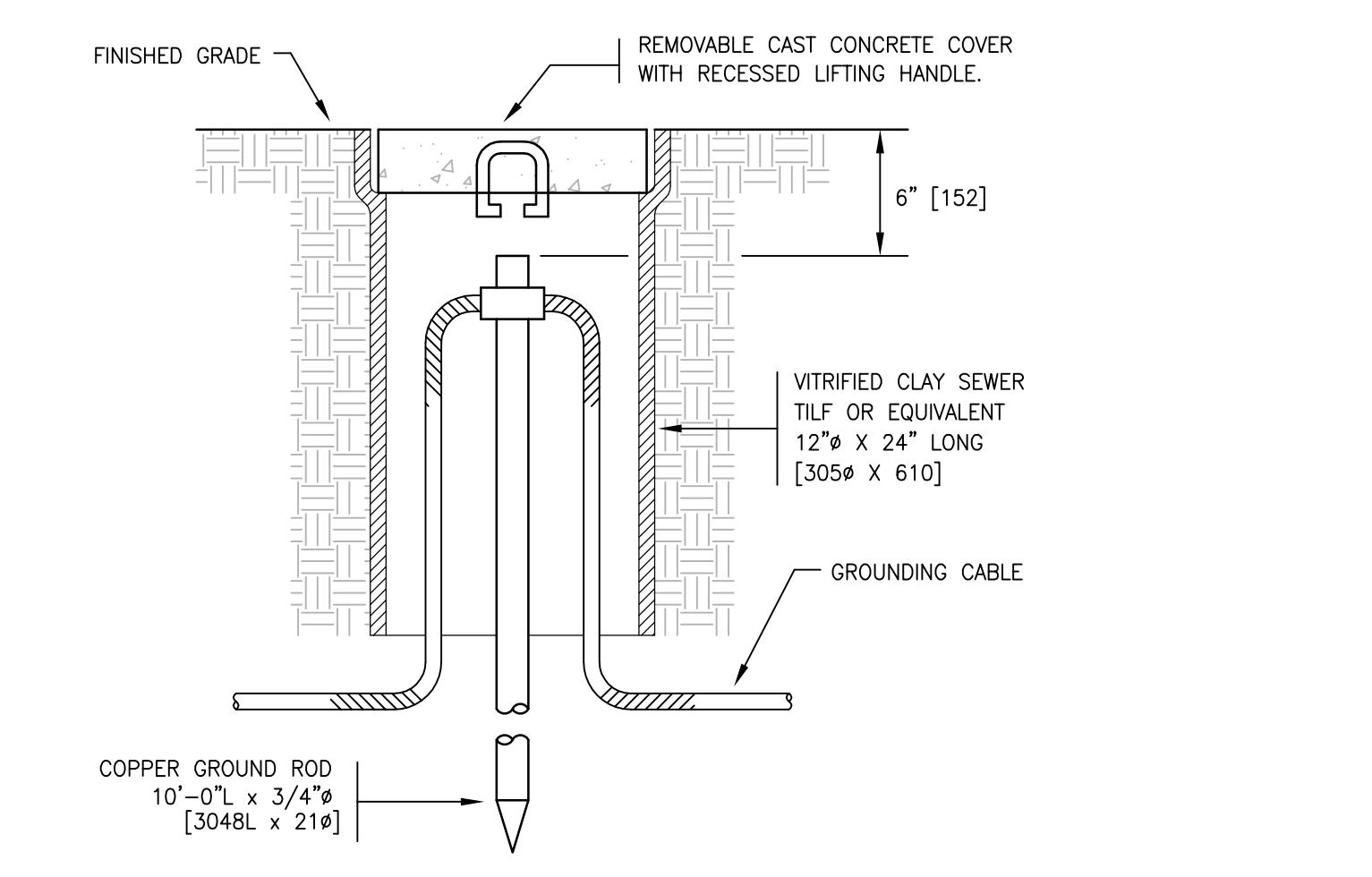
5 TYPICAL SUB-PANEL GROUNDING DETAIL
SCALE: NTS



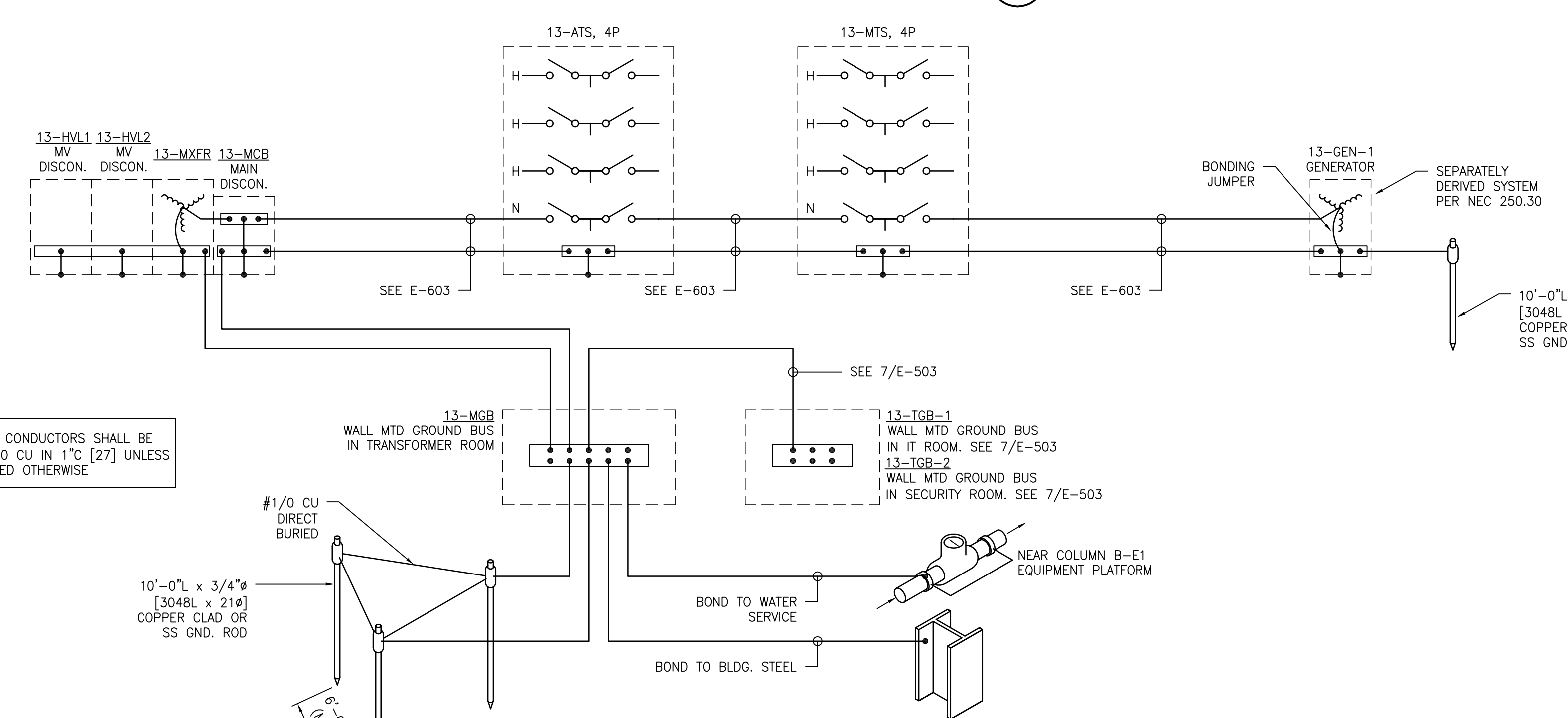
6 TYPICAL GROUNDING BAR DETAIL
SCALE: NTS



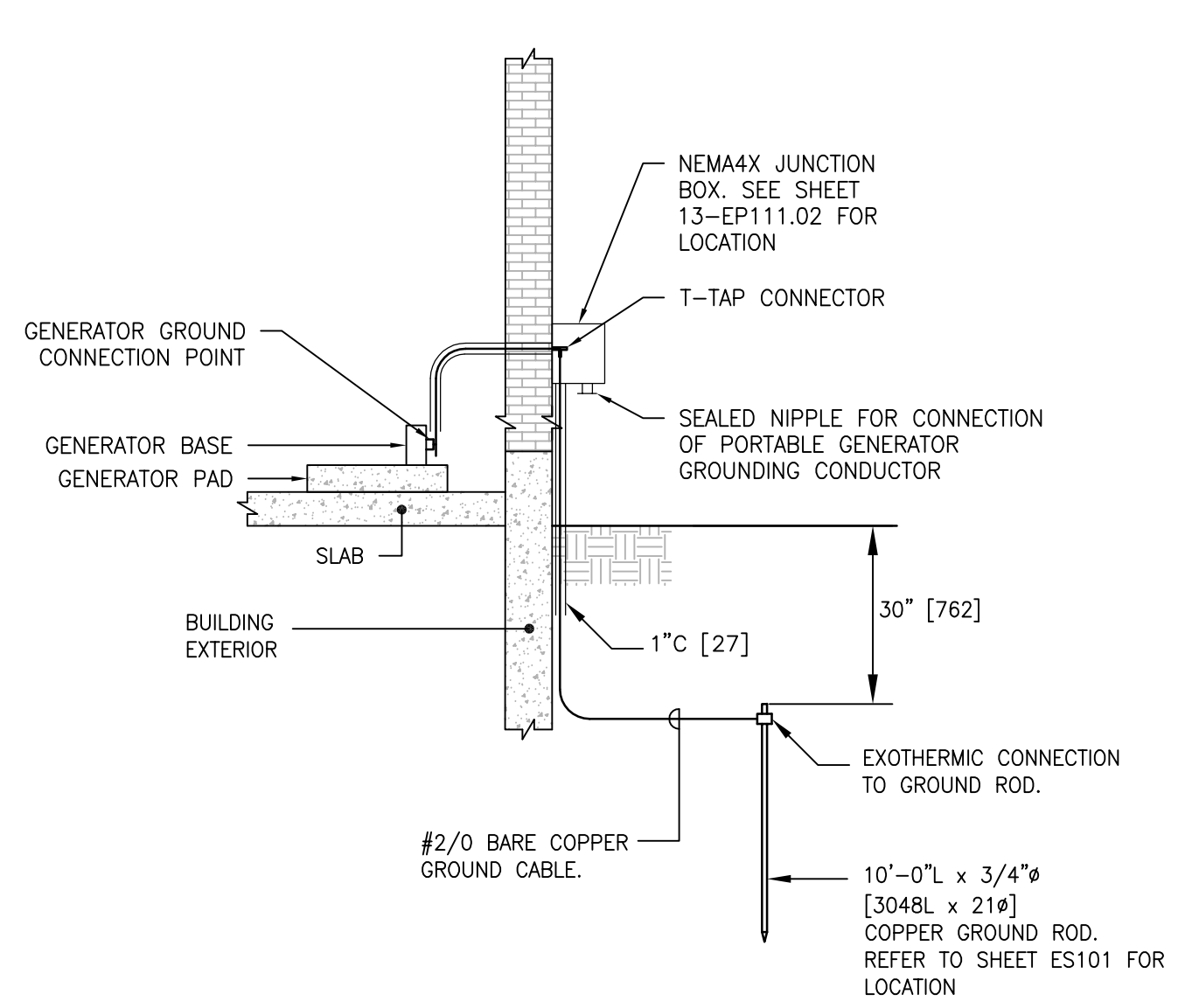
7 TELECOMMUNICATION GROUNDING DETAIL
SCALE: NTS



8 GROUND TEST POINT DETAIL
SCALE: NTS



9 GROUNDING DIAGRAM
SCALE: NTS



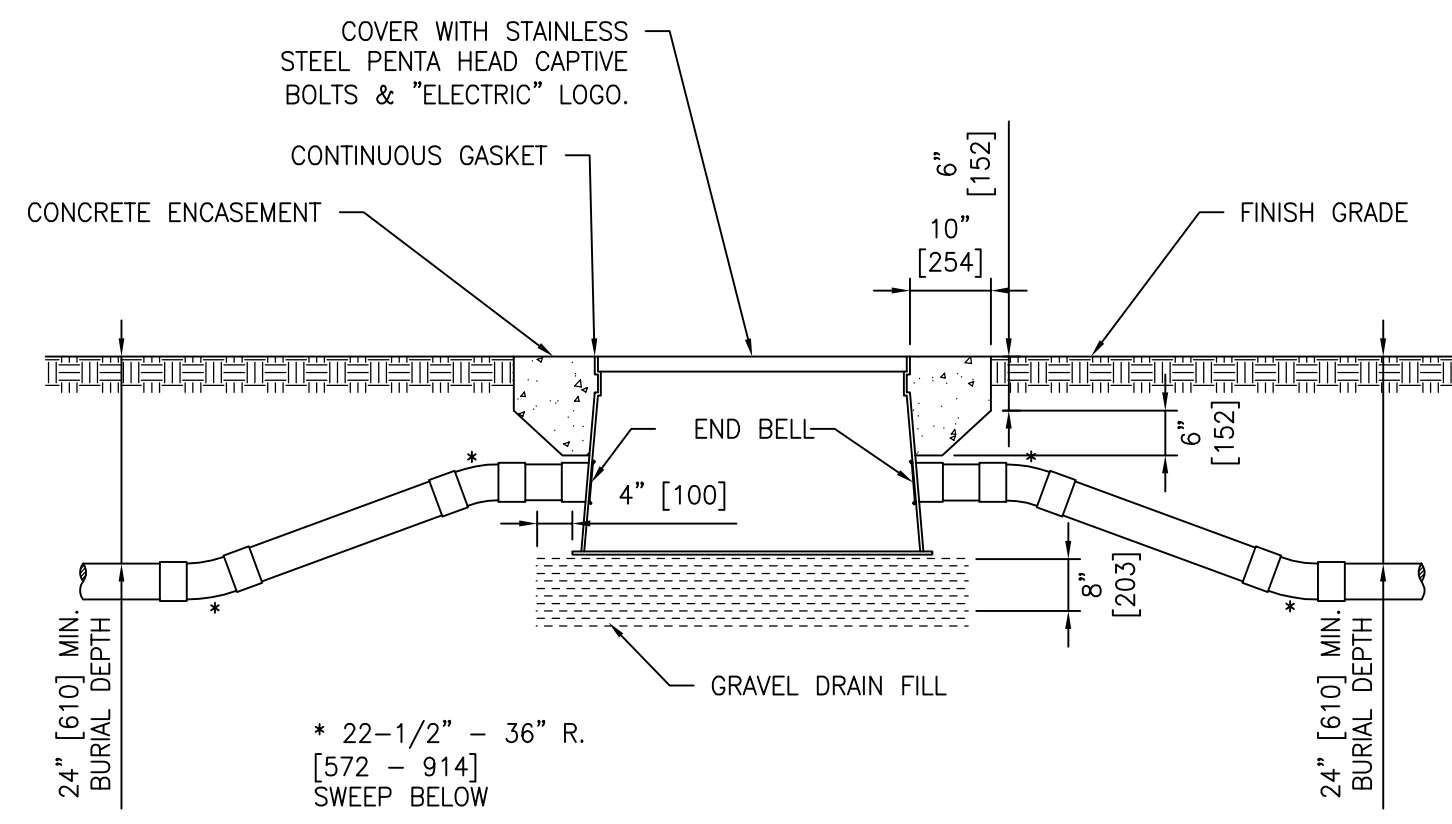
10 GENERATOR GROUNDING DETAIL
SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

CONSULTANTS HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6590 CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881 ARCHITECTURAL OCULUS INC. DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100		FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)769-2246 ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)308-2990 PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD. UNIT 304, BELLAIR BEACH, FL 33786 PHONE: (802)836-4232		ENGINEER OF RECORD Miller-Remick LLC M.E.P. & Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)429-4000 FAX: (856)429-9002 MR PROJECT NO: 0499-0121		MILLER-REMICK LLC PROFESSIONAL ENGINEER 		Office of Construction and Facilities Management U.S. Department of Veterans Affairs		Drawing Title ELECTRICAL DETAILS Approved: Project Director		Phase 100% BID SET FULLY SPRINKLERED		Project Title INSTALL NEW BOILERS IN BUILDING 13 Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS Issue Date 2021-09-03 Checked ARH Drawn ARH		Project Number 589A7-18-302 Building Number Drawing Number E-503	
---	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

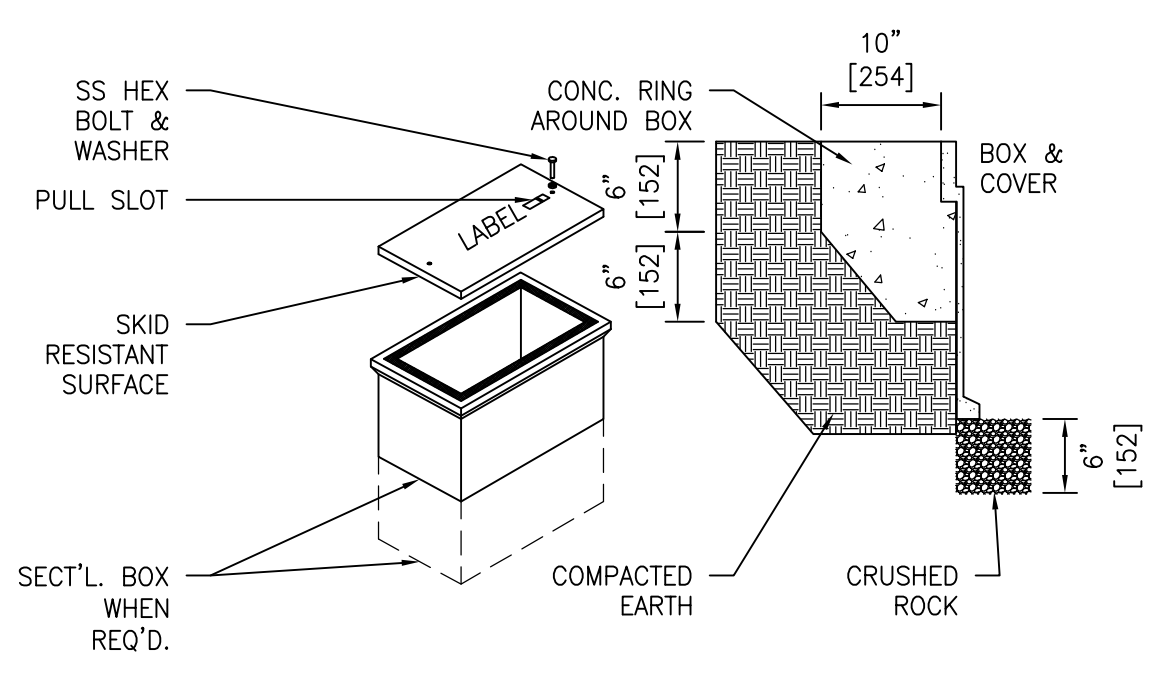
P:\0499-0121\Wichita\Boilers\Drawings\1-Cable\Current_Submittal_Phase\8_Electrical\E-501, E-502, E-503, E-504, E-505, E-506.dwg 9-03-21 04:07:02 PM dhalabi

Scale indicators: three inches = one foot, one and one half inches = one foot, one inch = one foot, three quarters inch = one foot, one half inch = one foot, three eighths inch = one foot, one quarter inch = one foot, one eighth inch = one foot.



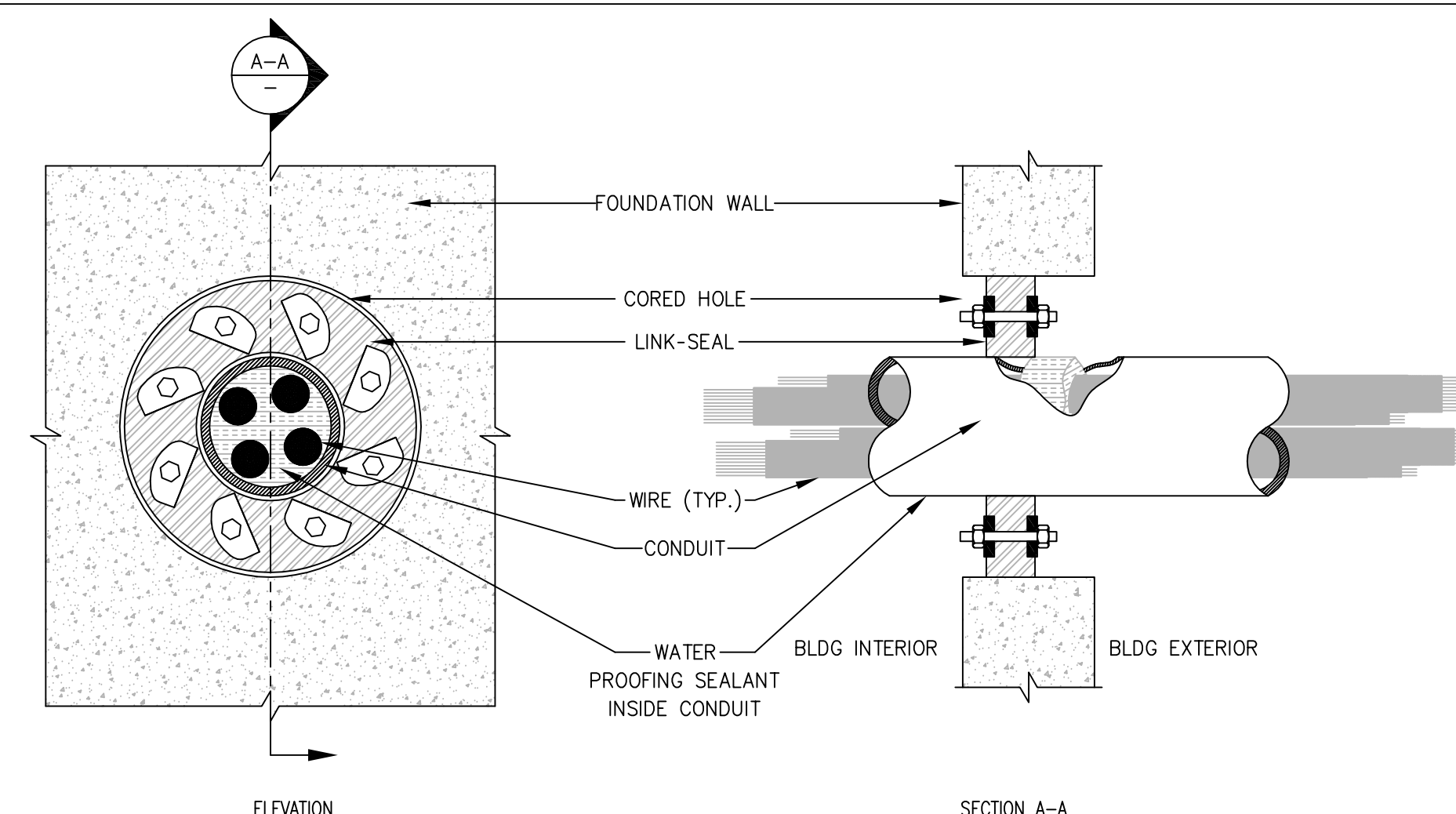
- GENERAL NOTE:**
- HANDHOLE CONSTRUCTION, INSTALLATION AND SIZE SHALL BE IN CONFORMANCE WITH NEC ART. 314.30.
 - REFER TO SHEET ES101 FOR LOCATIONS.
 - COVER SHALL BE LOCKABLE.

1 HANDHOLE DETAIL
SCALE: NTS



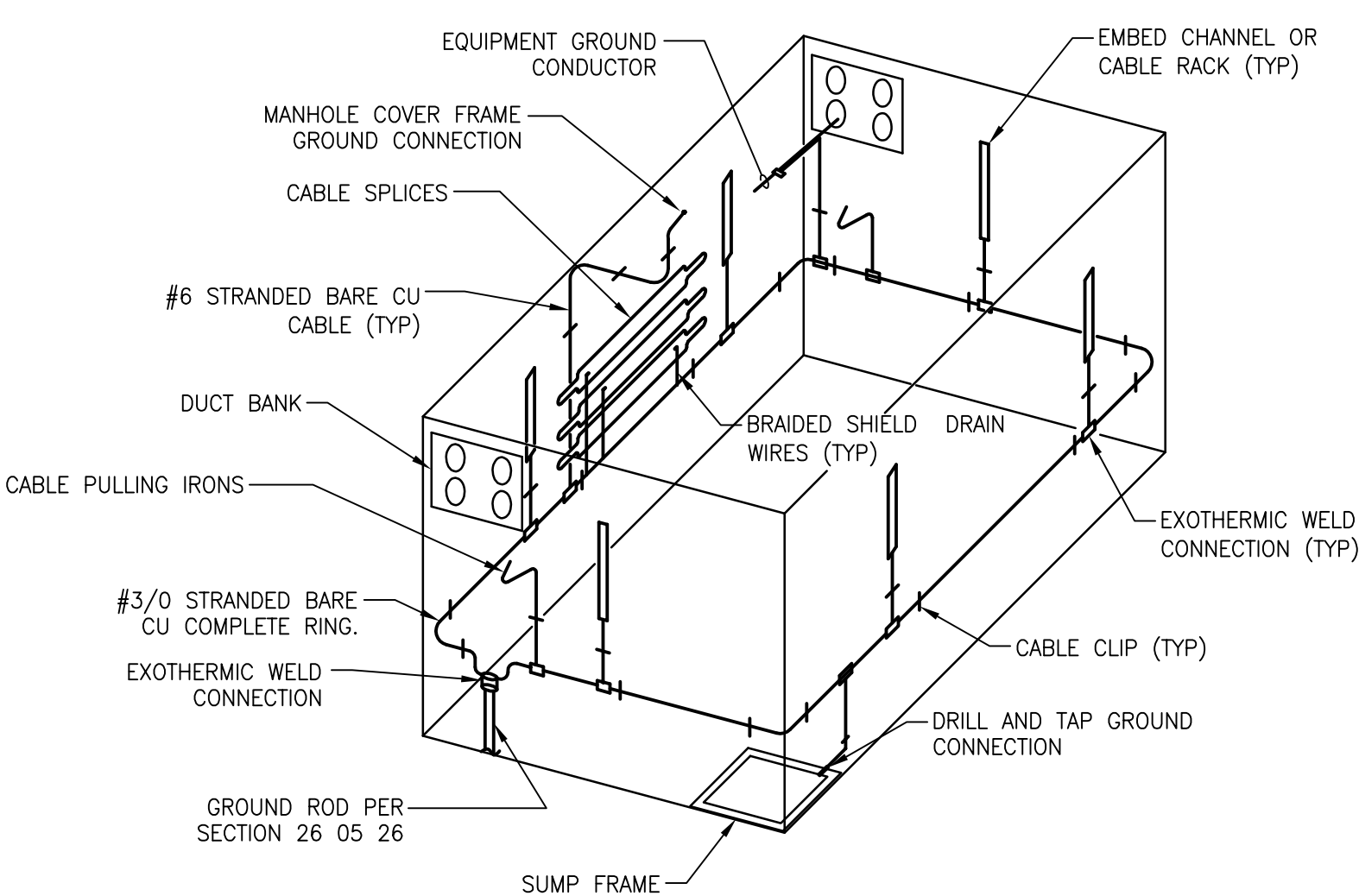
- HANDHOLE REQUIREMENTS:**
- HOUSING SHALL BE A POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE FIBERGLASS REINFORCED WITH COMPRESSIVE STRENGTH OF NO LESS THAN 10,000 PSI.
 - REFER TO SPECIFICATION FOR TIER RATING REQUIREMENTS.
 - PROVIDE PROPERLY SIZED HANDHOLE PER NEC.
 - PROVIDE SS BOLTS & INSERTS.
 - PROVIDE WITH (2) 2-1/2" [63] MOUSE HOLES.
 - PROVIDE LABEL "ELECTRICAL" FOR POWER HANDHOLES OR "TELECOM" FOR TELEPHONE TELECOMMUNICATIONS, OR AS INDICATED.
 - COVER SHALL BE LOCKABLE.

2 STANDARD ELECTRICAL HANDHOLE
SCALE: NTS

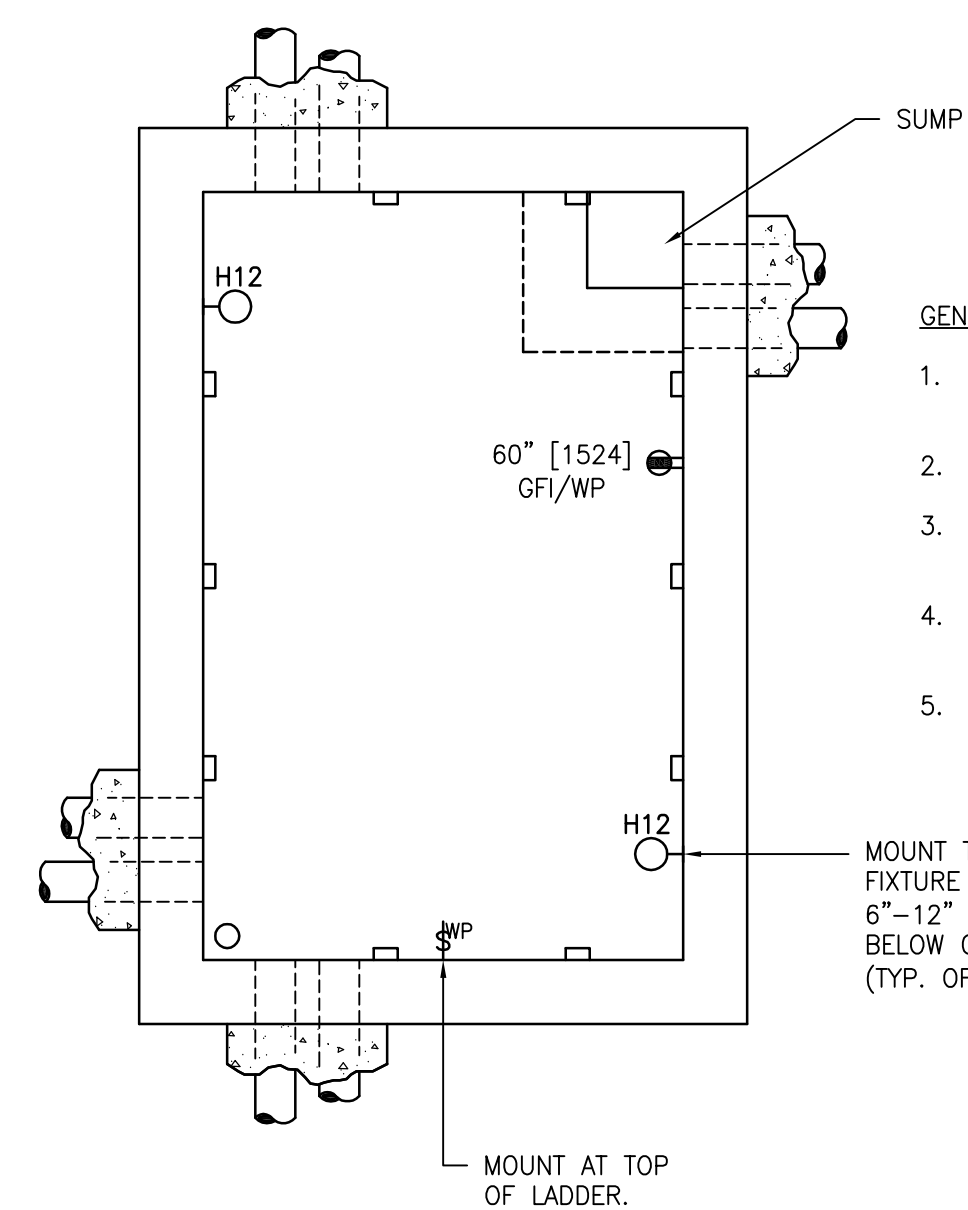


- NOTES:**
- INSTALL ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. LINK-SEAL OR EQUAL.
 - DETAIL APPLIES TO CONDUITS PENETRATING FOUNDATION WALL AND ROUTED TO THE BUILDING EXTERIOR FOR SERVICES/SITE LIGHTING/HVAC EQUIPMENT CONNECTIONS.
 - REFER TO SPECIFICATION SECTION 079200.

3 CONDUIT PENETRATION DETAIL
SCALE: NTS

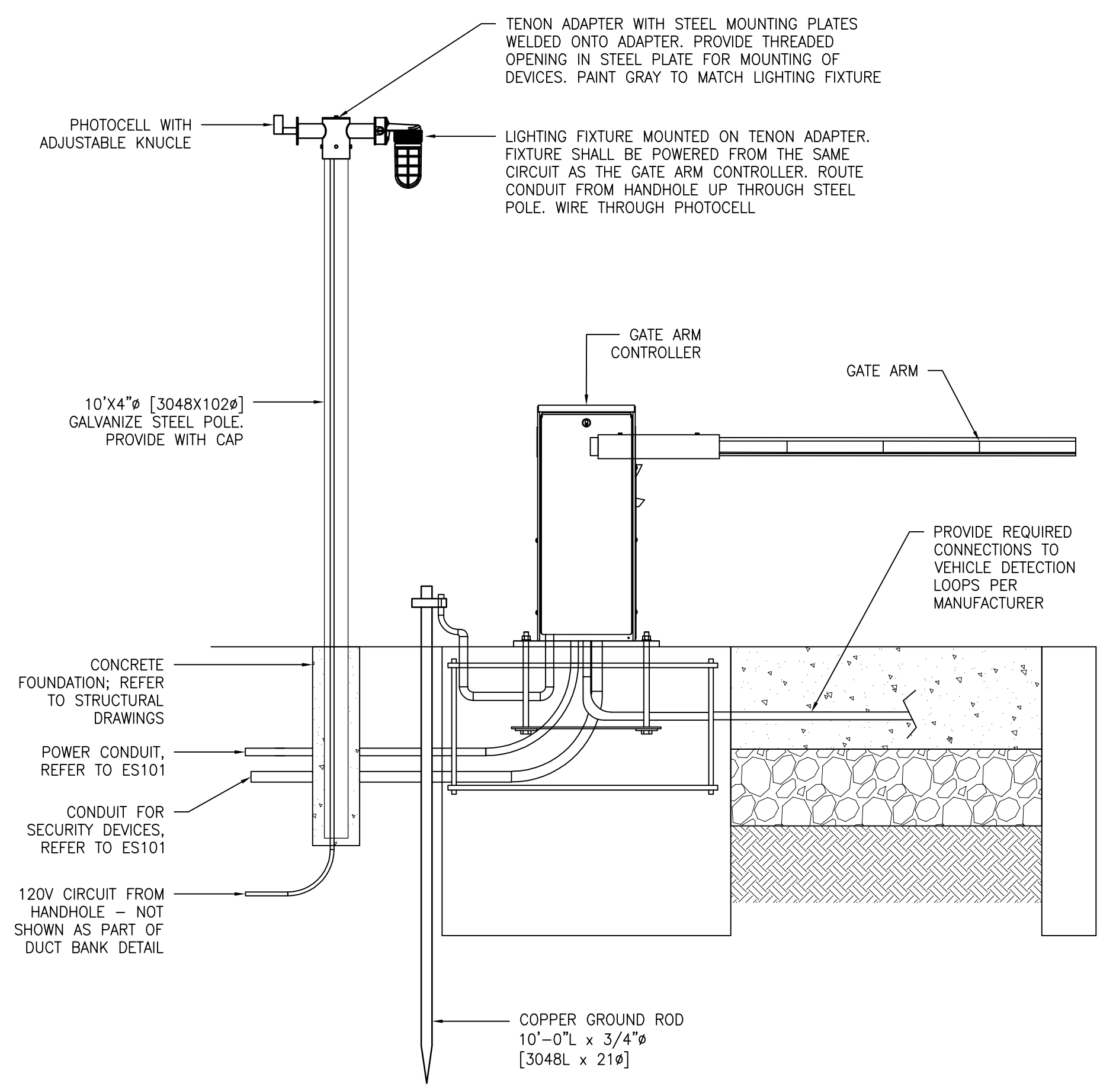


5 MANHOLE GROUNDING DETAIL
SCALE: NTS

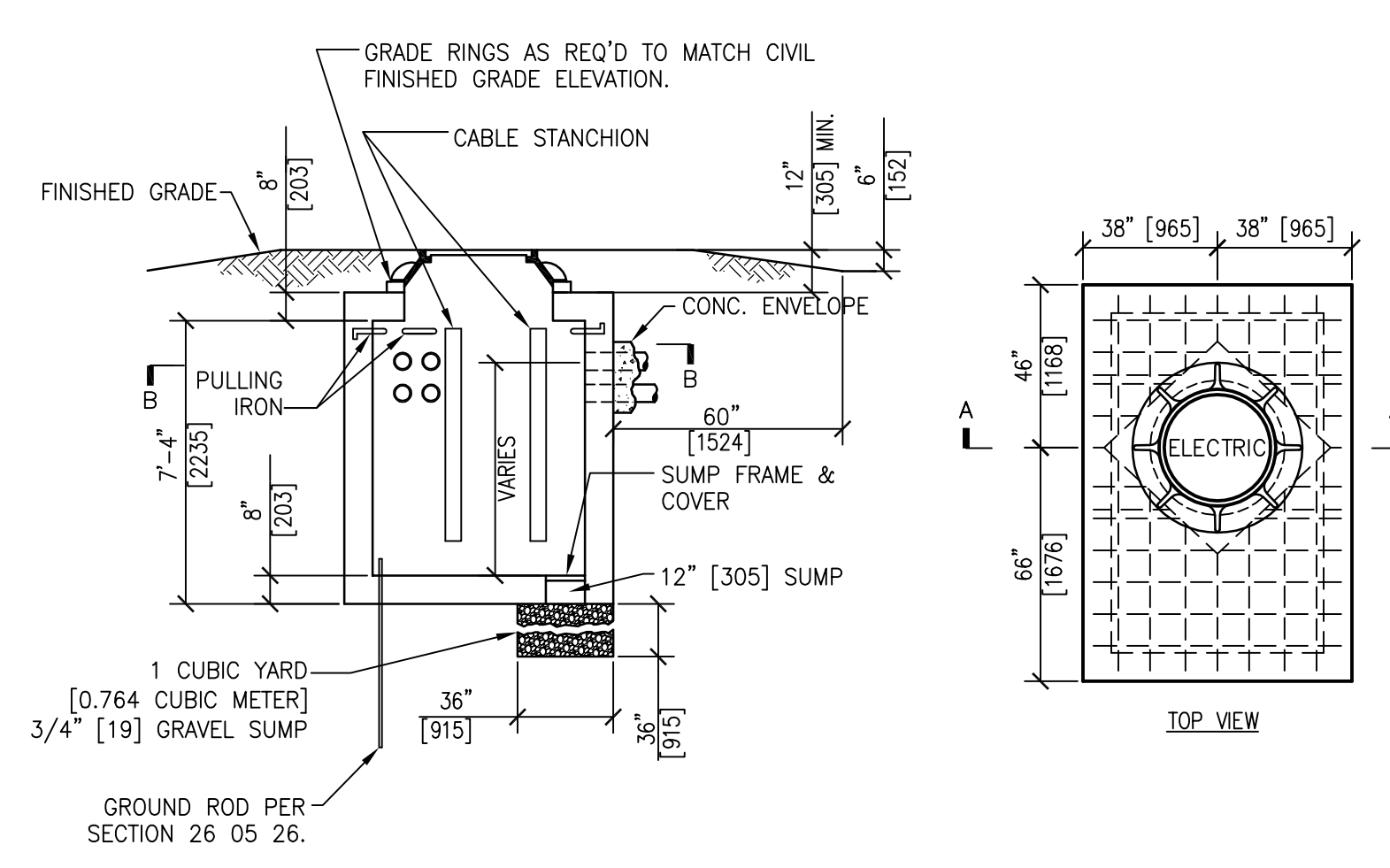


6 MANHOLE DETAIL -- PLAN VIEW
SCALE: NTS

- GENERAL NOTES:**
- LAYOUT APPLIES TO MV MANHOLE AND STEAM MANHOLE.
 - REFER TO SPECIFICATION SECTION 260541.
 - LIGHTING FIXTURES AND RECEPTACLE SHALL BE CIRCUITED AS SHOWN ON FLOOR PLANS.
 - DO NOT CIRCUIT LIGHTING FIXTURES TO LOAD SIDE OF RECEPTACLE.
 - ALL DEVICES SHALL BE INSTALLED IN CAST DEVICE WEATHERPROOF BOXES. CONDUIT SHALL BE GRS.

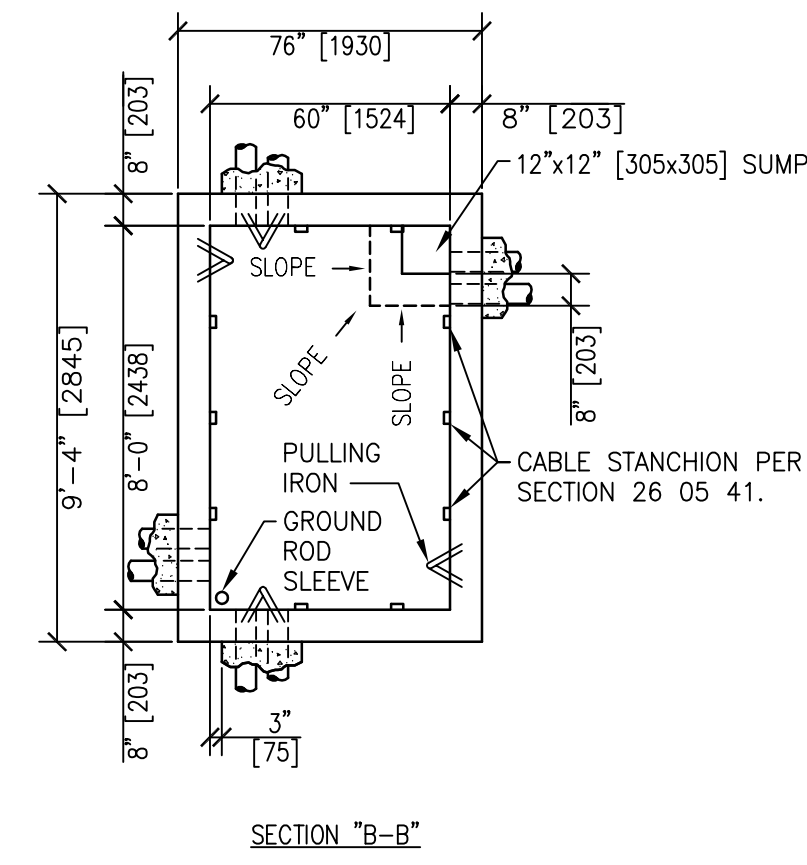


7 GATE ARM CONTROLLER DETAIL
SCALE: NTS



- GENERAL NOTES:**
- INCLUDE ALUMINUM LADDER (NOT SHOWN FOR CLARITY).
 - MANHOLE COVER SHALL BE LOCKABLE.
 - REFER TO MANHOLE GROUNDING DETAIL.
 - REFER TO MANHOLE PLAN VIEW DETAIL.

4 MANHOLE DETAIL
SCALE: NTS



PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

CONSULTANTS		
HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6550		
CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891		
ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100		
NO.	DESCRIPTION	DATE

FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246	ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990	PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232
--	---	--

ENGINEER OF RECORD

Miller-Remick LLC
 M.E.P. & Structural Engineering
 A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
 CHERRY HILL, NEW JERSEY 08034
 PHONE: (856)429-4000
 FAX: (856)429-5002
 MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
 PROFESSIONAL ENGINEER

ANTHONY D. PACIOREK
 LICENSED PROFESSIONAL ENGINEER
 26413
 KANSAS
 9.3.2021

Office of Construction and Facilities Management

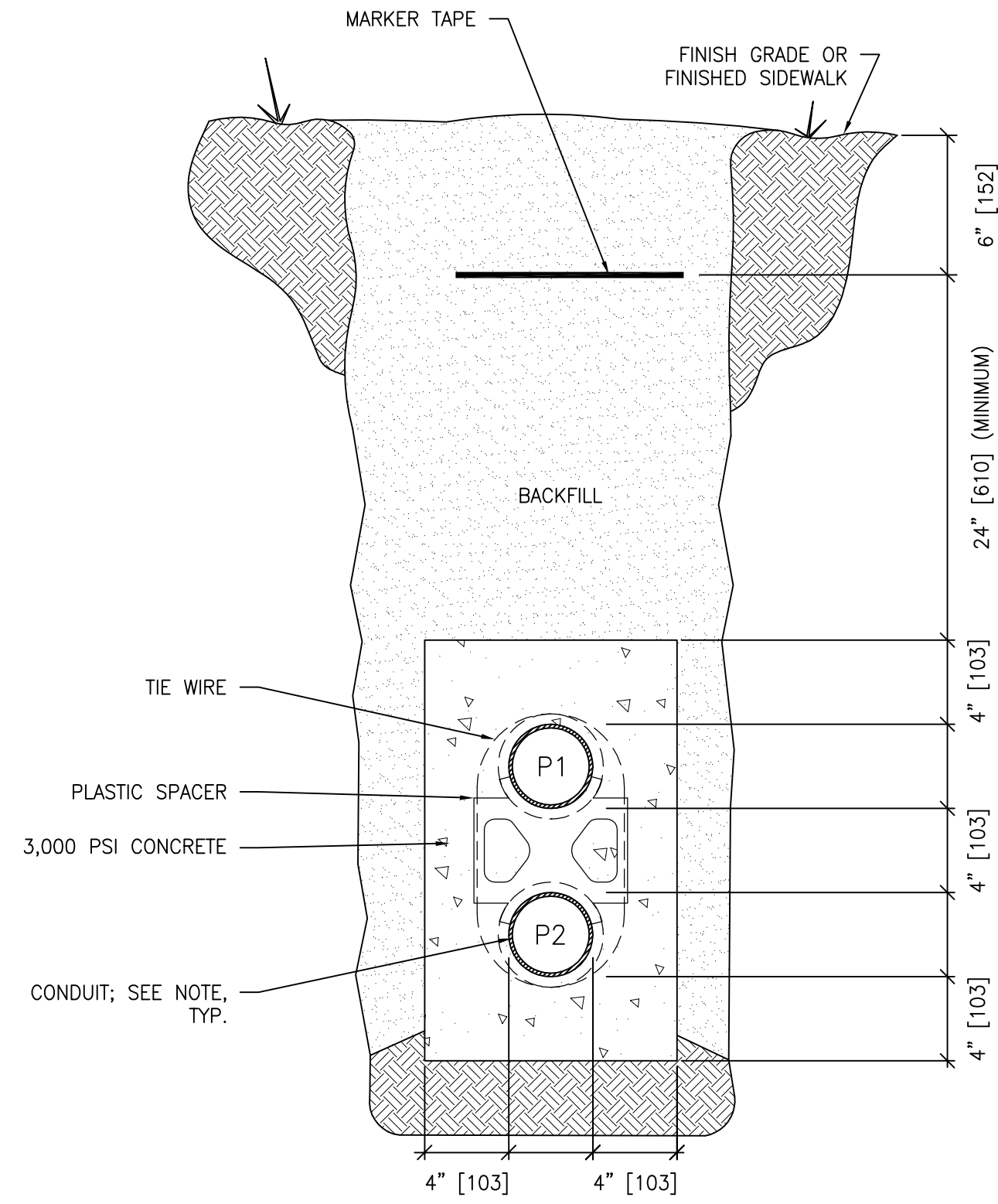
VA U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL DETAILS	Phase 100% BID SET
Approved: Project Director	Project Title INSTALL NEW BOILERS IN BUILDING 13
	Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS
	Issue Date 2021-09-03
	Checked ARH
	Drawn ARH
	Project Number 589A7-18-302
	Building Number
	Drawing Number E-504

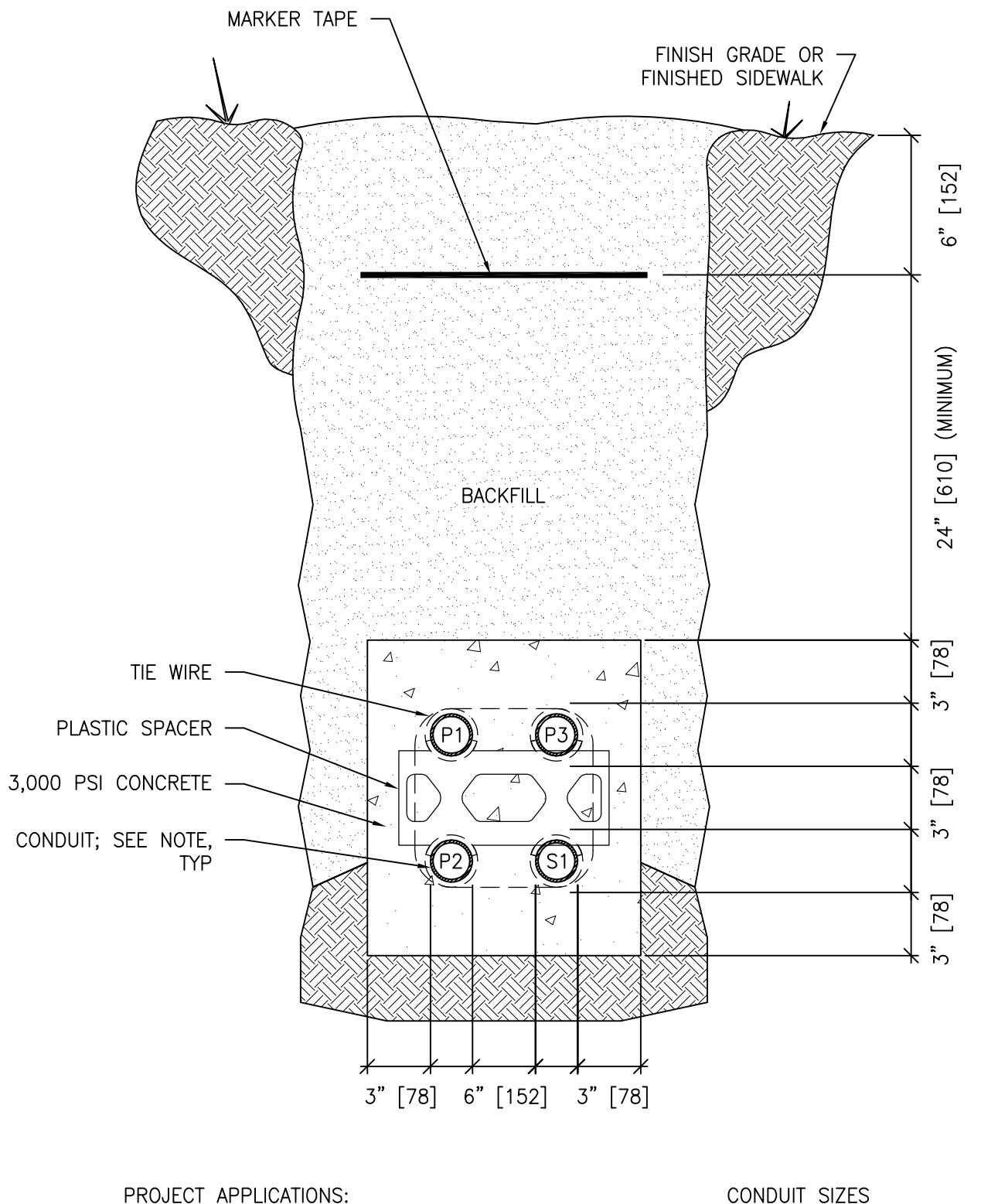
Project Title INSTALL NEW BOILERS IN BUILDING 13
Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS
Issue Date 2021-09-03
Checked ARH
Drawn ARH
Project Number 589A7-18-302
Building Number
Drawing Number E-504

GENERAL DETAIL NOTES:
APPLY TO ALL DUCT BANK DETAILS

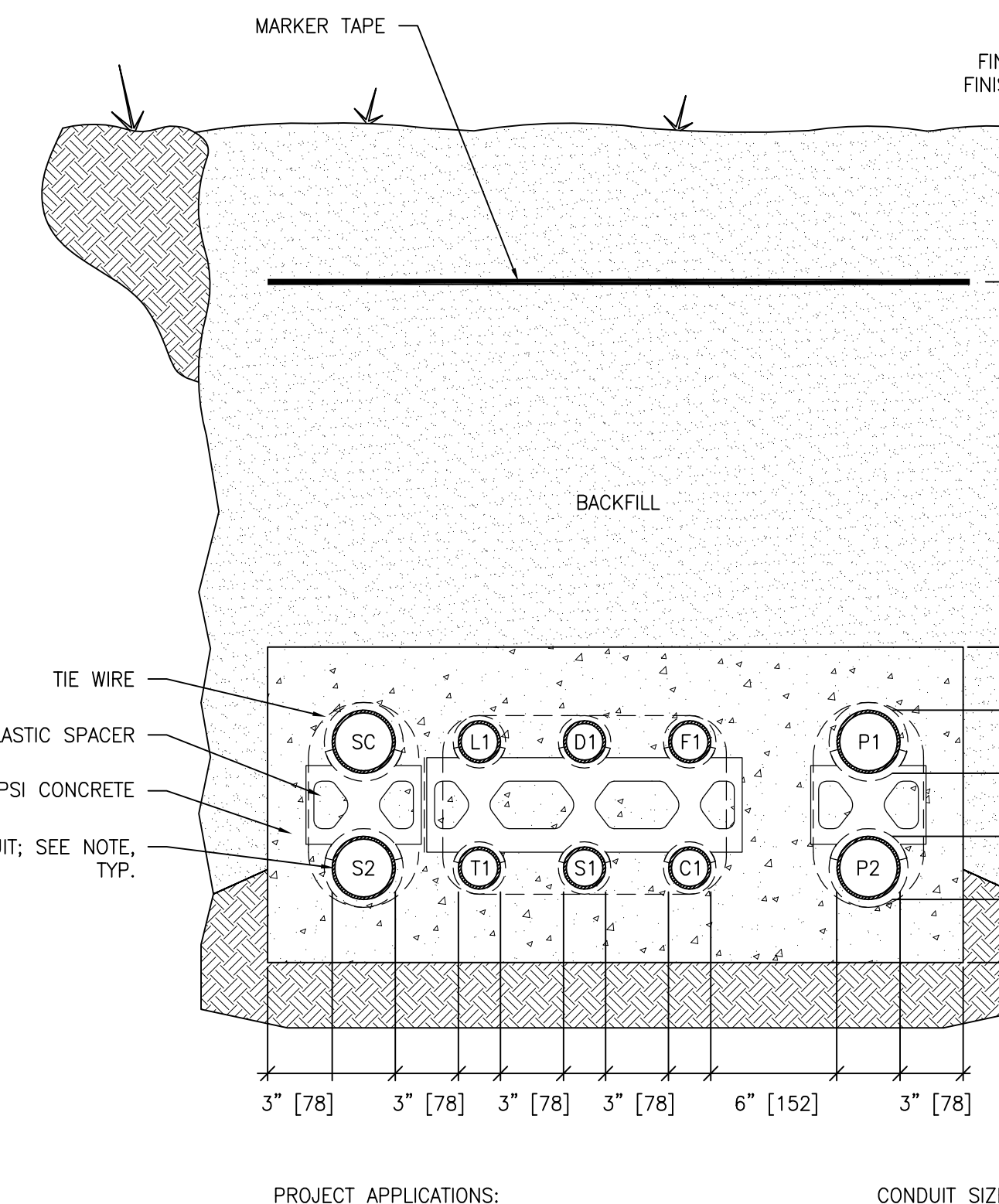
1. MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 24" [610] OR AS OTHERWISE SPECIFIED IN SECTION 26 05 41.
2. ALL MV DUCTS SHALL BE CONCRETE-ENCASED REGARDLESS OF LOCATION.
3. UNDER ROADWAYS, DUCTS SHALL BE CONCRETE-ENCASED.
4. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
5. CONDUITS SHALL BE PVC SCHEDULE 80 UNLESS NOTED OTHERWISE.
6. PROVIDE #4 REINFORCING RODS ON TOP AND BOTTOM OF DUCTS WHEN CROSSING OR PLACED BELOW ROADWAYS.
7. PROVIDE MINIMUM 6" [152] SPACE BETWEEN POWER AND TELECOMMUNICATION DUCTS. INCREASE SIZE AS REQUIRED.
8. PROVIDE PULL CORDS IN ALL UNDERGROUND CONDUIT FOR FUTURE CABLE PULLS.
9. REFER TO SHEET ES101 FOR LOCATION.
10. RISER AND ASSOCIATED ELBOWS SHALL BE GR5.
11. THE CONTRACTOR SHALL NOTE THAT SOME DUCT BANK CONFIGURATION MIGHT REQUIRE MODIFICATION IN THE FIELD DUE TO THE LIMITED CORRIDORS ON SITE AND THE CONGESTION WITH OTHER UTILITIES.



- PROJECT APPLICATIONS:**
1. DUCT BANK BETWEEN NEW MANHOLES (FEEDERS 53-F2 AND 53-F4).
 2. DUCT BANK BETWEEN NEW MANHOLE TO EXISTING MANHOLE.
 3. DUCT BANK BETWEEN NEW MANHOLE TO EXISTING "SPliced" DUCT BANK.
 4. DUCT BANK FROM EXISTING SWITCHGEAR 53 TO NEW MV TRANSFORMER.
 5. DUCT BANK FROM THE MV SWITCH IN BUILDING 13 TO HANDHOLE, HH#1 FOR FUTURE SECONDARY FEEDER.
- CONDUIT SIZES**
- P1: 4" [103]
P2: 4" [103]



- PROJECT APPLICATIONS:**
1. DUCT BANK FROM BUILDING 13 TO HANDHOLE #2.
- CONDUIT SIZES**
- P1: 2" [53] FOR FEED TO BUILDING 35 PANEL
P2: 2" [53] TO WATER STORAGE TANK (POWER)
P3: 2" [53] TO WATER STORAGE TANK (CONTROLS)
S1: 2" [53] SPARE

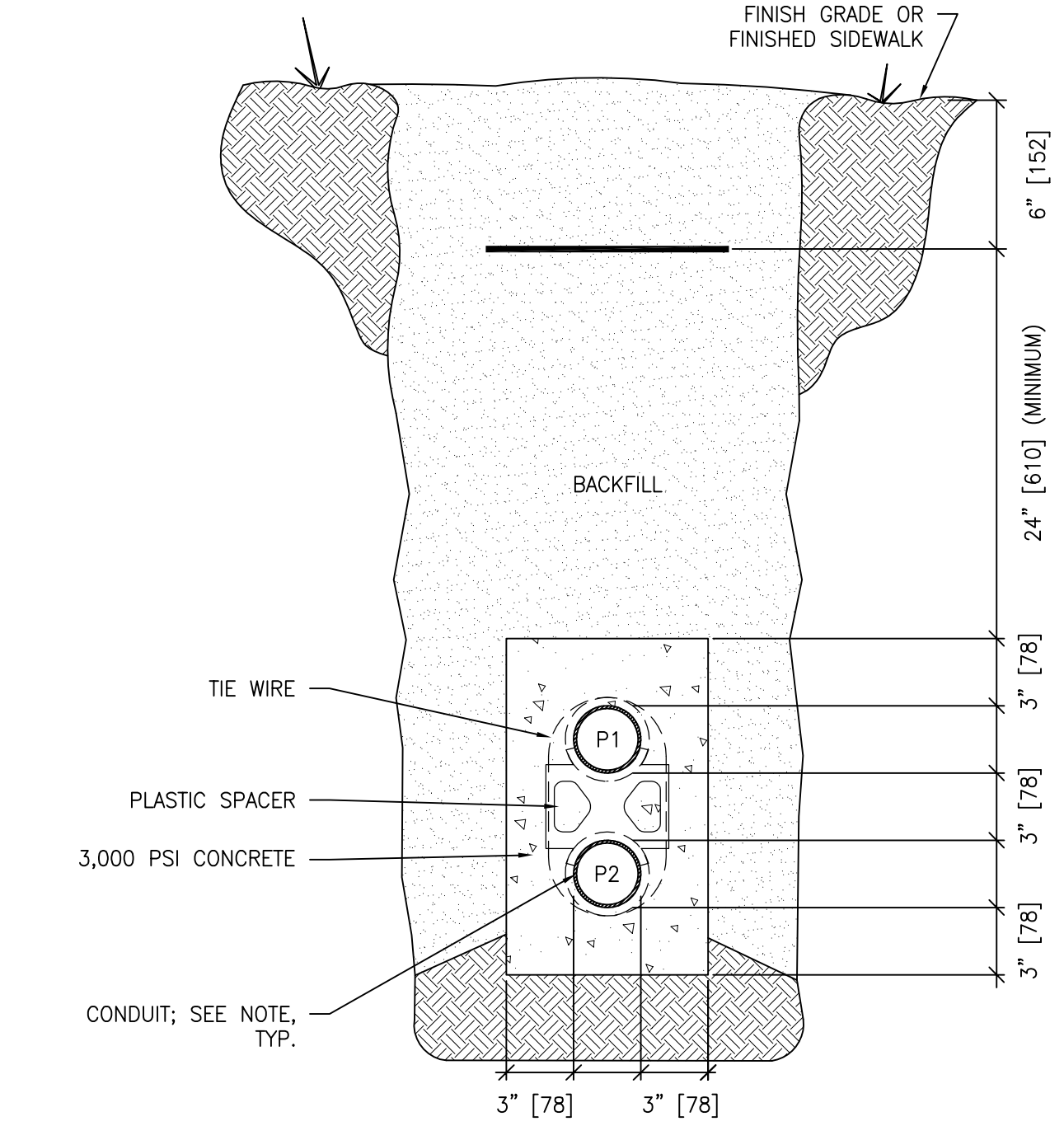


- PROJECT APPLICATIONS:**
1. DUCT BANK FROM BUILDING 13 TO BUILDING 20.
- CONDUIT SIZES**
- P1: 3" [78] FOR PANEL C FEEDER
P2: 3" [78] FOR PANEL D FEEDER
D1: 2" [53] FOR INNERDUCT AND FIBER OPTIC CABLE
T1: 2" [53] FOR TELEPHONE CABLE
F1: 2" [53] FOR FIRE ALARM CABLES
G1: 2" [53] FOR CATV CABLES
L1: 2" [53] FOR MISC. CABLES
S1: 2" [53] SPARE
SC: 3" [78] FOR SECURITY CABLES
S2: 3" [78] SPARE

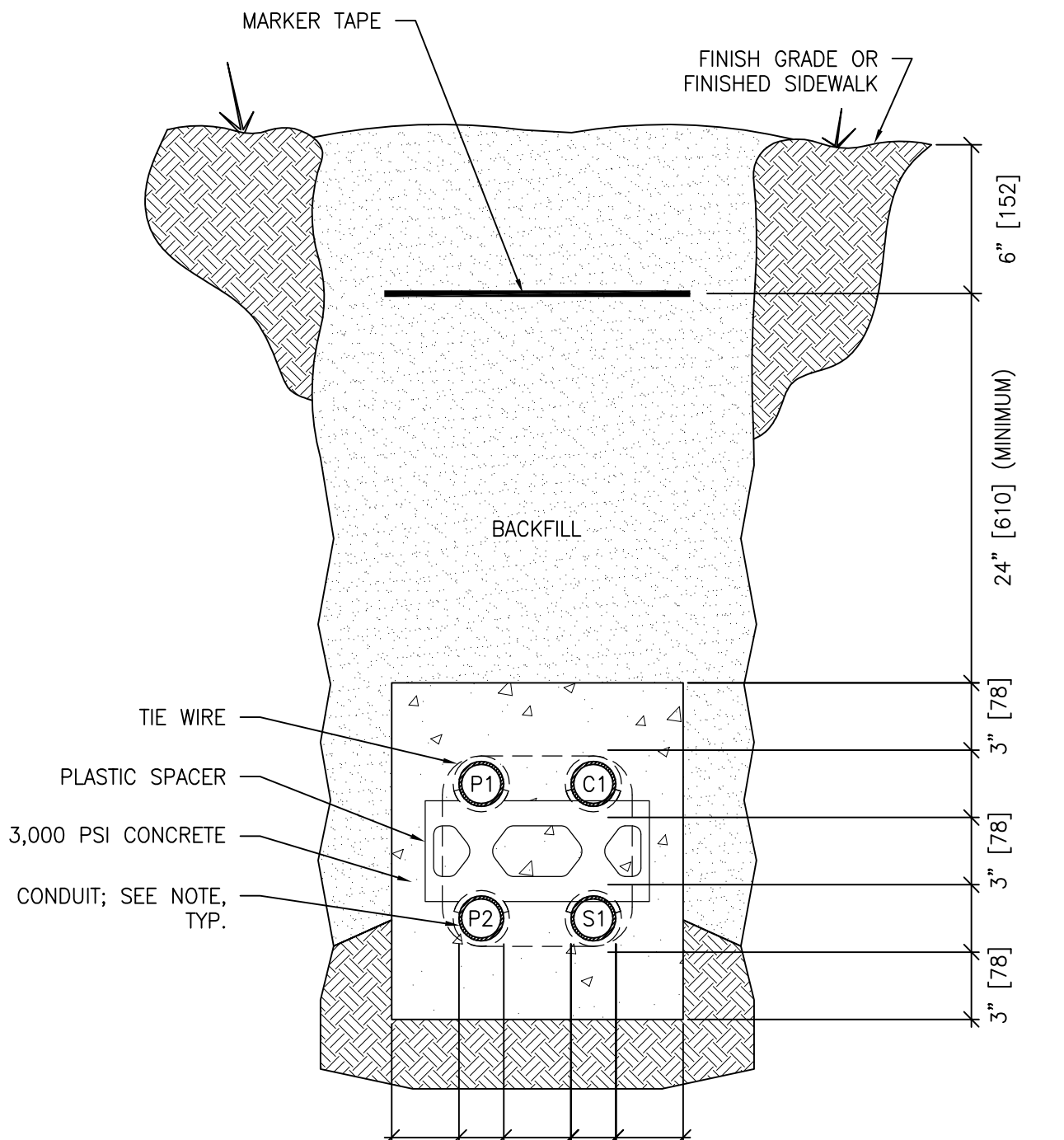
1 CONCRETE ENCASED 2-WAY MV DUCT BANK SECTION
SCALE: NTS

2 CONCRETE ENCASED 4-WAY DUCT BANK SECTION
SCALE: NTS

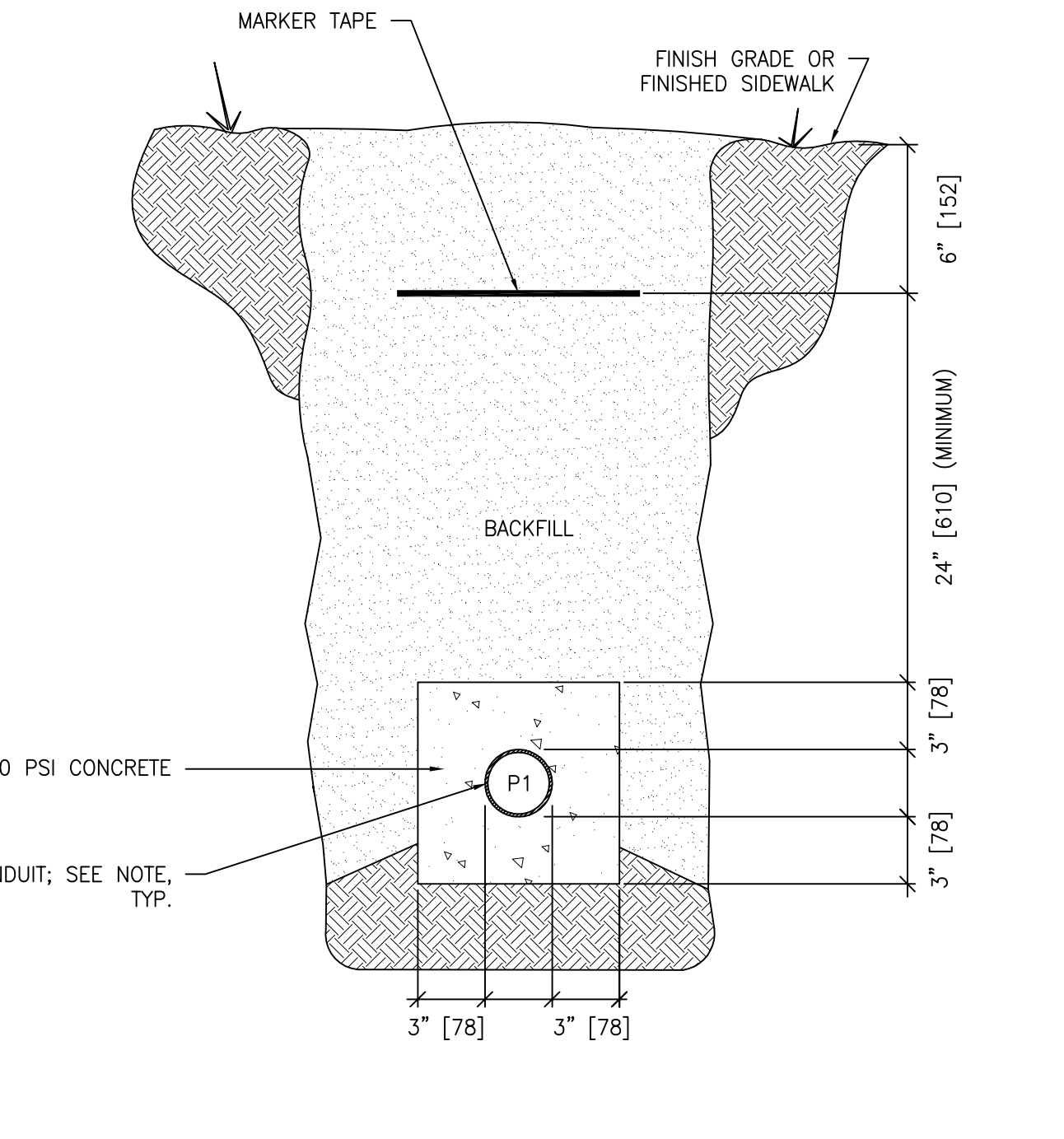
3 CONCRETE ENCASED 10-WAY DUCT BANK SECTION
SCALE: NTS



- PROJECT APPLICATIONS:**
1. DUCT BANK BETWEEN HANDHOLE #2 TO WATER STORAGE TANK.
 2. DUCT BANK BETWEEN BUILDING 13 AND HANDHOLE #3 FOR FUTURE SECONDARY OT FIBER AND SECURITY FIBER
 3. DUCT BANK FROM BUILDING 20 TO HANDHOLE #G1.
 4. DUCT BANK FROM BUILDING 20 TO HANDHOLE #G2.
 5. DUCT BANK FROM HANDHOLE #G1/#G2 TO GATE ARM CONTROLLER.
 6. DUCT BANK FROM BUILDING 16 TO PEDESTRIAN GATE.
 7. DUCT BANK FROM BUILDING 20 TO PEDESTRIAN GATE.
 8. DUCT BANK FROM BUILDING 20 TO VARIOUS SITE CAMERAS.
- CONDUIT SIZES**
- P1: 2" [53]
P2: 2" [53]



- PROJECT APPLICATIONS:**
1. DUCT BANK FROM EXISTING RELOCATED GENERATOR TO EXISTING RELOCATED ATS #1 IN NEW ELECTRICAL ROOM OF BUILDING 13.
- CONDUIT SIZES**
- P1: 3" [78] FOR FEED FROM RELOCATED GENERATOR TO RELOCATED ATS
P2: 2" [53] FOR HEATER, BATTERY
C1: 2" [53] FOR ANNUNCIATOR CABLES AND START SIGNAL
S1: 2" [53] SPARE



- PROJECT APPLICATIONS:**
1. DUCT BANK FROM BUILDING 20 TO HANDHOLES AND SSTV CAMERAS ON SITE.
 2. DUCT BANK FROM BUILDING 13 TO NEW MANHOLE (POWER).
 3. DUCT BANK FROM BUILDING 13 TO NEW MANHOLE (STEAM).
 4. DUCT BANK FROM BUILDING 13 TO NEW TAMPER SWITCH OF POST INDICATOR VALVE.
 5. DUCT BANK FROM BUILDING 16 TO BUILDING 10 (SECURITY).
- CONDUIT SIZES**
- P1: 2" [53]

4 CONCRETE ENCASED 2-WAY DUCT BANK SECTION
SCALE: NTS

5 CONCRETE ENCASED 4-WAY DUCT BANK SECTION
SCALE: NTS

6 1-WAY DUCT BANK SECTION
SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS

<p>HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6590</p>	<p>FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246</p>
<p>CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881</p>	<p>ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990</p>
<p>ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100</p>	<p>PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD. UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232</p>

ENGINEER OF RECORD

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)439-4000
FAX: (856)439-5002
MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ANNUNY D. PAKI
LICENSED PROFESSIONAL ENGINEER
KANSAS
26413
9.3.2021

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
ELECTRICAL DETAILS

Approved: Project Director

Phase
100% BID SET

FULLY SPRINKLERED

Project Title
INSTALL NEW BOILERS IN BUILDING 13

Location
ROBERT J. DOLE VA MEDICAL CENTER
WICHITA, KANSAS

Issue Date
2021-09-03

Checked
ARH

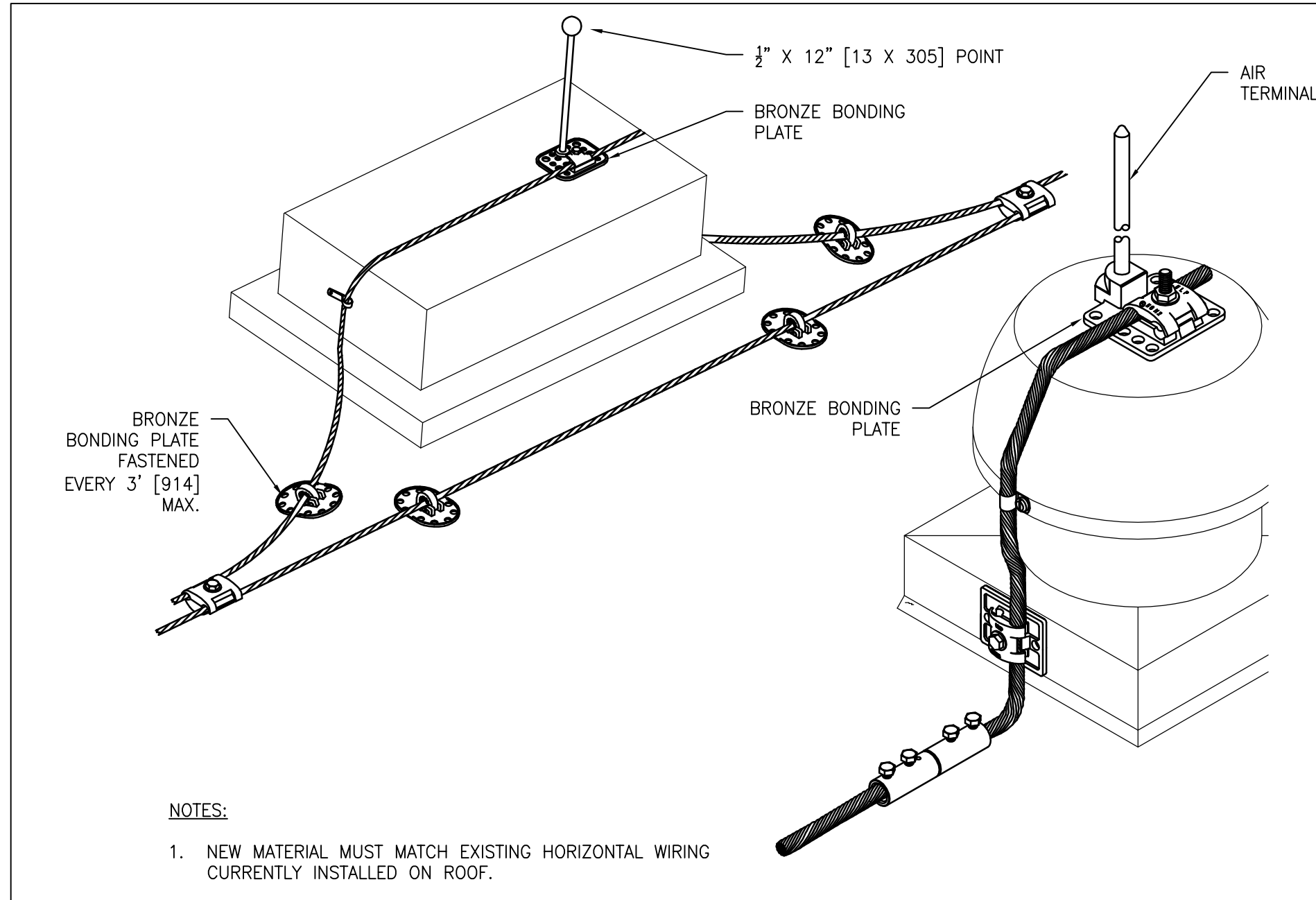
Drawn
ARH

Project Number
589A7-18-302

Building Number

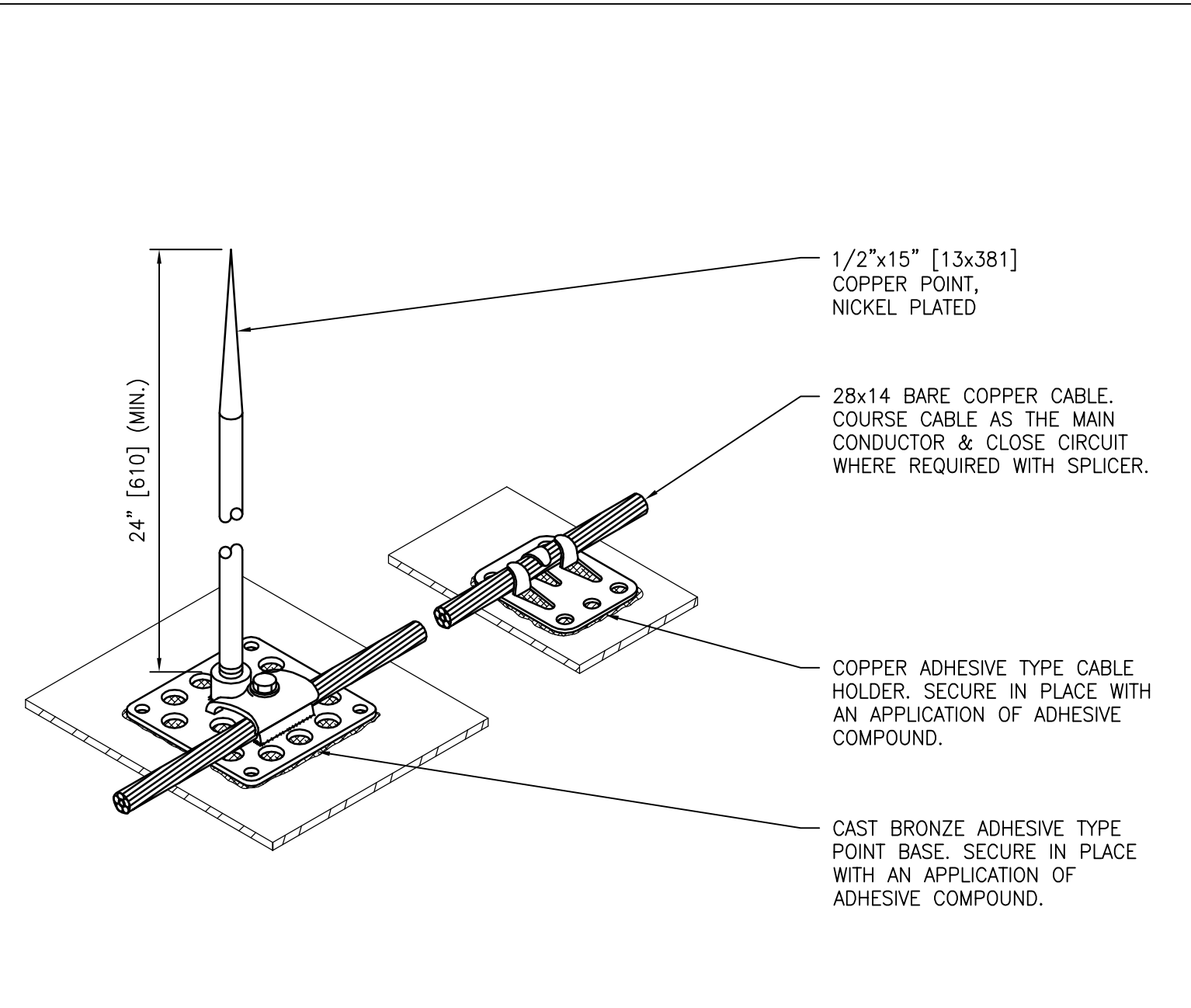
Drawing Number
E-505

three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 one quarter inch = one foot
 three eighths inch = one foot
 one eighth inch = one foot

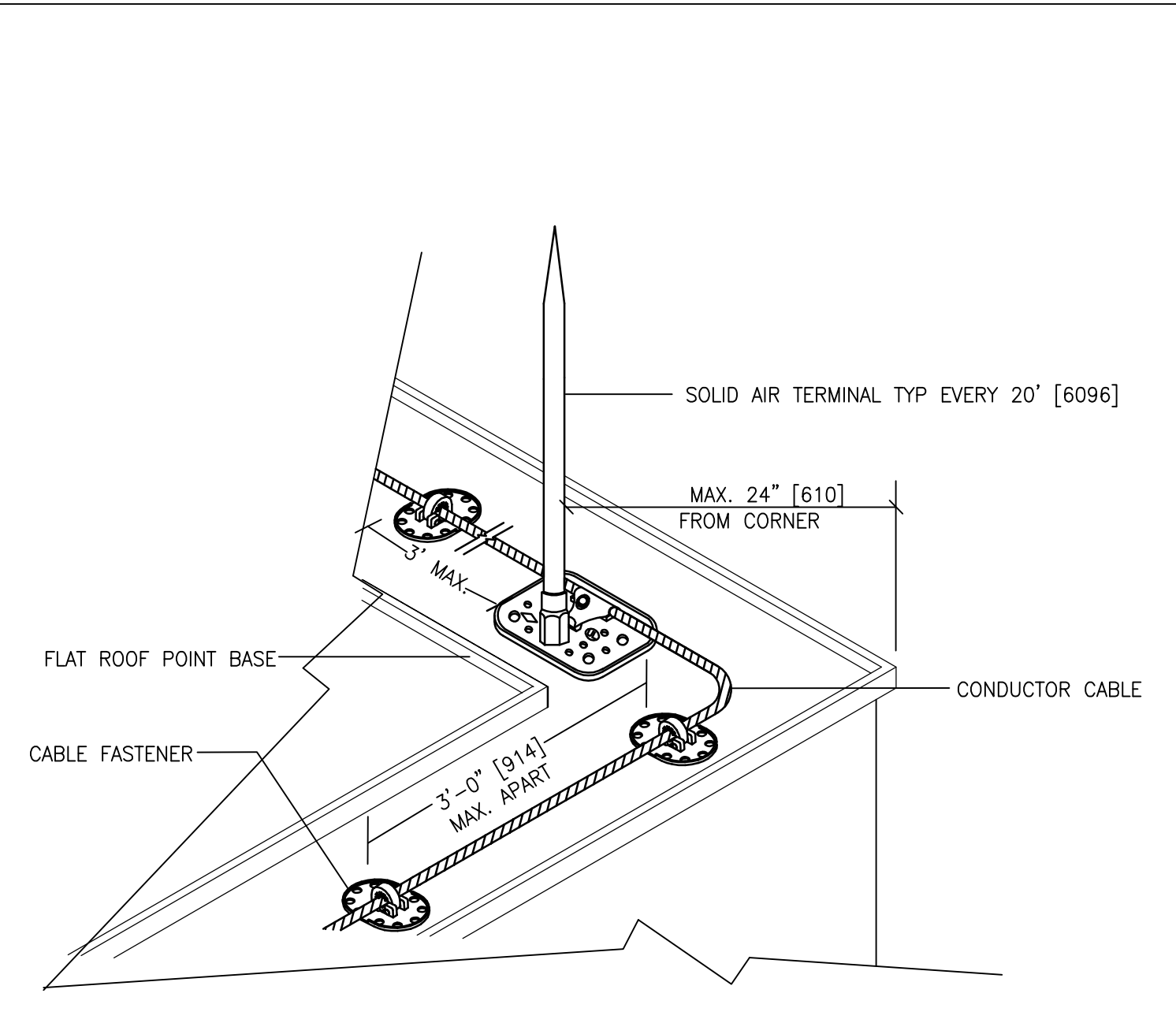


NOTES:
 1. NEW MATERIAL MUST MATCH EXISTING HORIZONTAL WIRING CURRENTLY INSTALLED ON ROOF.

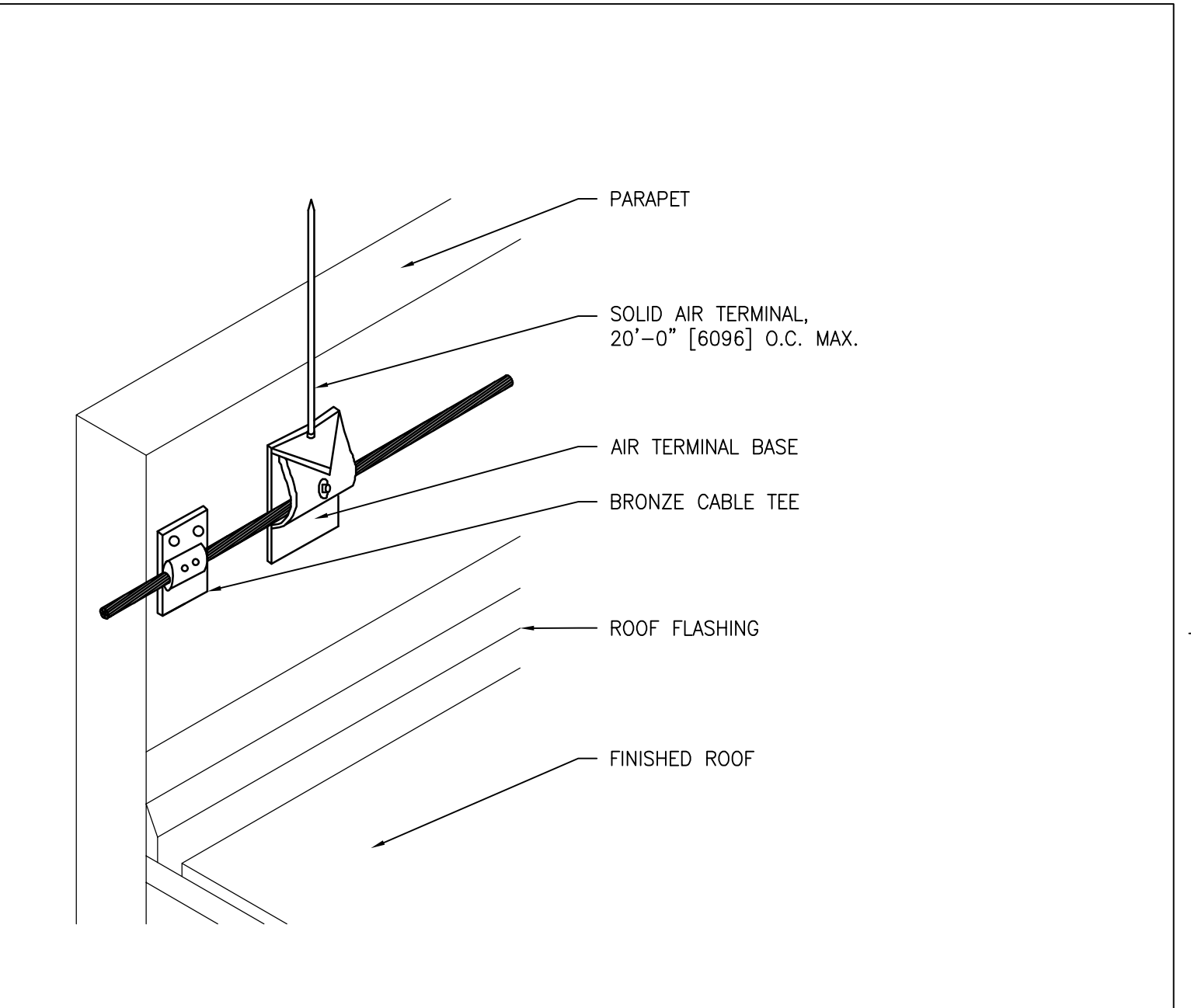
1 TYPICAL LIGHTNING PROTECTION MECHANICAL EQUIPMENT
 SCALE: NTS



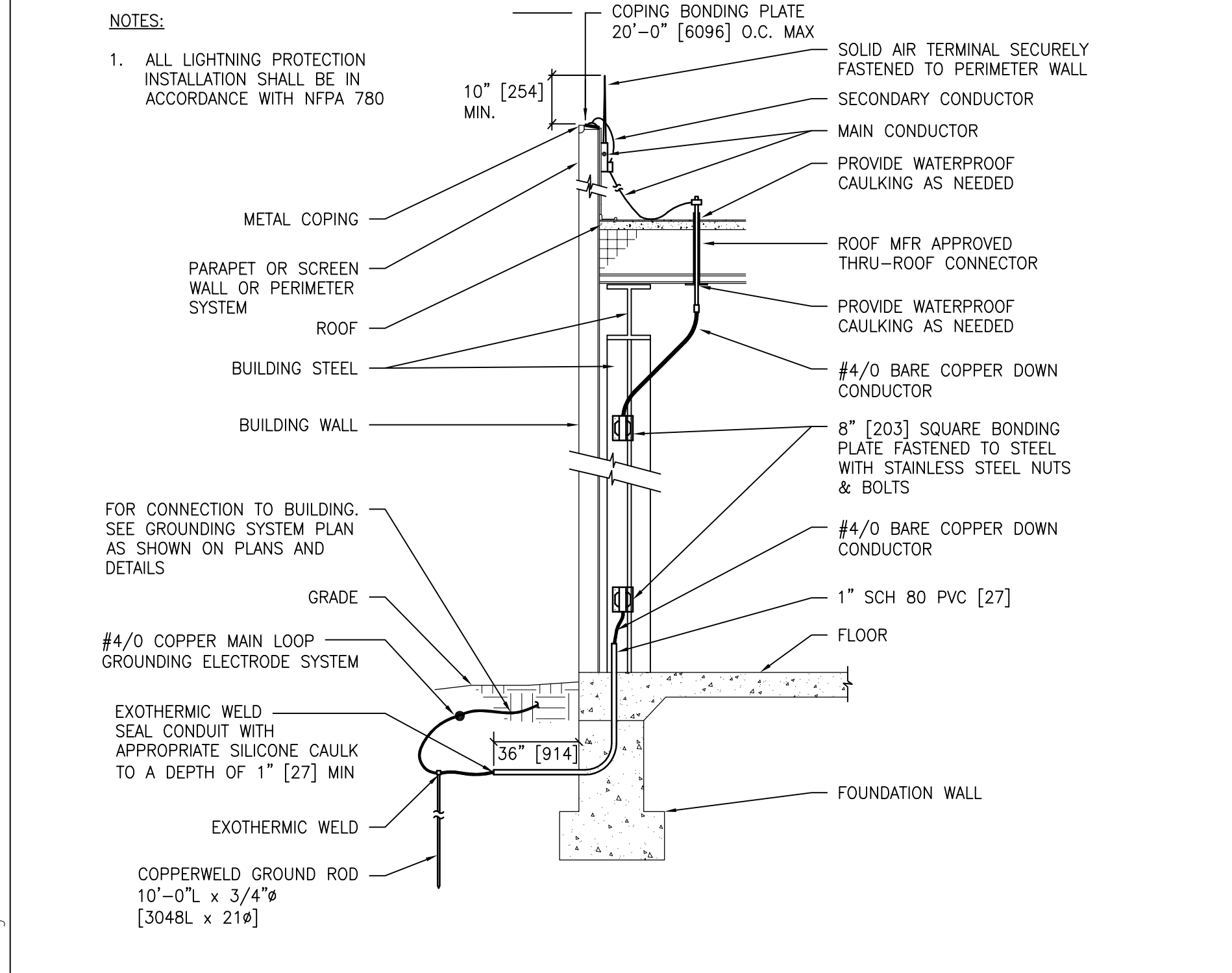
2 LIGHTNING PROTECTION DETAIL - CABLE HOLDER
 SCALE: NTS



3 TYPICAL LIGHTNING PROTECTION GLUE DOWN PERIMETER SYSTEM
 SCALE: NTS



4 TYPICAL LIGHTNING PROTECTION SYSTEM PARAPET CONNECTION DETAIL
 SCALE: NTS



NOTES:
 1. ALL LIGHTNING PROTECTION INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 780

5 TYPICAL LIGHTNING PROTECTION SYSTEM CONNECTION DETAIL
 SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS		
HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6550	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246	ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990
CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891	PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (813)367-6100	ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100

ENGINEER OF RECORD

Miller-Remick LLC
 M.E.P. & Structural Engineering
 A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
 CHERRY HILL, NEW JERSEY 08034
 PHONE: (856)429-4000
 FAX: (856)429-5002
 MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
 PROFESSIONAL ENGINEER

ANTHONY D. PACIARO
 LICENSED PROFESSIONAL ENGINEER
 26413
 KANSAS
 9.3.2021

Office of Construction and Facilities Management

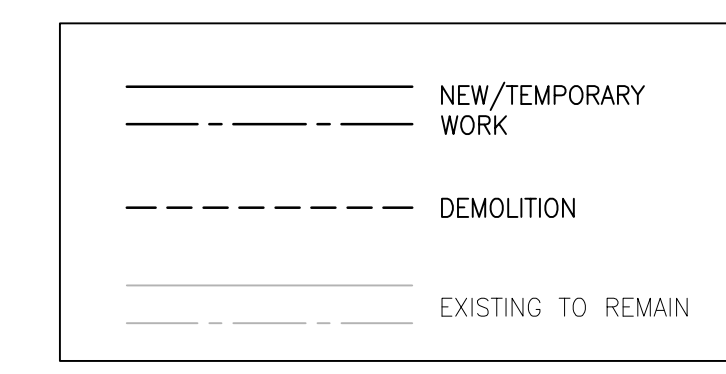
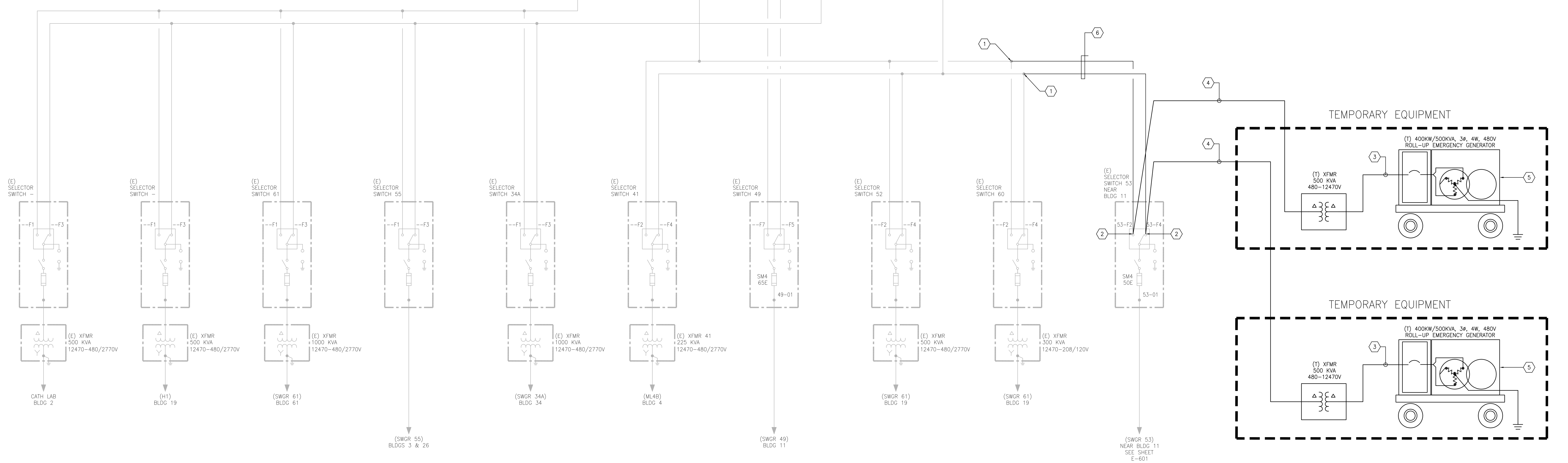
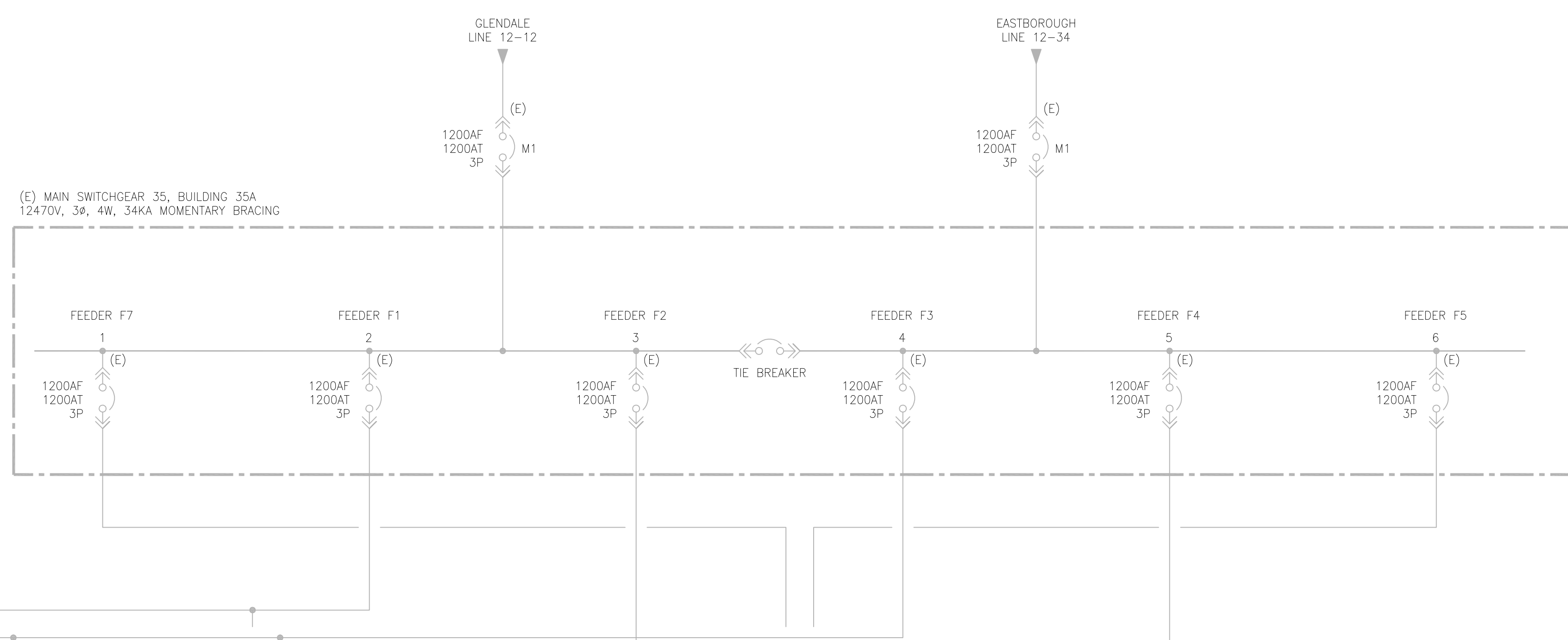
VA U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL DETAILS	Phase 100% BID SET
Approved: Project Director	Project Title INSTALL NEW BOILERS IN BUILDING 13
	Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS
	Issue Date 2021-09-03
	Checked ARH
	Drawn ARH

Fully Sprinklered	Project Number 589A7-18-302
	Building Number
	Drawing Number E-506

- GENERAL SHEET NOTES:**
- REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
 - REFER TO SHEET ES101 FOR PHASING NOTES AND TEMPORARY EQUIPMENT REQUIREMENTS.
 - THE INTENT OF THIS DRAWING IS TO SHOW AN OVERVIEW OF THE CAMPUS'S MV DISTRIBUTION INCLUDING THE TEMPORARY GENERATOR CONNECTION. BREAKER RATINGS, EQUIPMENT RATING AND TOPOLOGY WERE OBTAINED FROM EXISTING DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED. PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SPLICES AFFECTED BY THE WORK TO ENSURE SAFETY PRECAUTIONS ARE TAKEN DURING OUTAGES.
 - FOUR WEEKS PRIOR TO ANY SHUT DOWNS, THE CONTRACTOR SHALL PROVIDE THE VA WITH A MOD DETAILING THE SHUTDOWN, BUILDINGS AFFECTED BY THE SHUTDOWN AND ANTICIPATED DURATION OF OUTAGE.

- SHEET KEYNOTES:**
- DISCONNECT SELECTOR SWITCH 53 MV FEEDERS FROM SPLICE IN EXISTING MANHOLE #2. CONFIRM SPLICE LOCATION. SPLICE THE NEW MV FEEDERS AT THE SAME LOCATION AFTER INSTALLATION OF NEW MV DUCT BANK. REFER TO SHEET ES101 FOR PHASING NOTES.
 - DISCONNECT MV FEEDER FROM SELECTOR SWITCH. CONNECT TEMPORARY FEEDERS FROM TEMPORARY TRANSFORMER. DISCONNECT AND REMOVE TEMPORARY FEEDERS AND CONNECT THE NEW MV FEEDERS AFTER INSTALLATION OF THE NEW MV DUCT BANK. REFER TO SHEET ES101 FOR PHASING NOTES.
 - PROVIDE TEMPORARY FEEDERS FROM GENERATOR TO TRANSFORMER: 2 SETS OF (3)600KCMIL + (1)2/0 G EACH IN 4" C [103]. PROTECT FEEDERS WITH BARRIERS AND PROVIDE WARNING LABELS.
 - PROVIDE TEMPORARY (3) #1/0 15KV MV105 IN 4" C [103].
 - GENERATOR BATTERY CHARGER AND HEATERS SHALL BE CONNECTED TO TEMPORARY PANEL TEMP-GEN. REFER TO SHEET ES101 FOR LOCATION OF PANEL. REFER TO SHEET E-602 FOR SINGLE LINE DIAGRAM.
 - EXISTING DUCT BANK FROM MANHOLE #2 TO POINT INDICATED ON SHEET ES101 SHALL BE REMOVED. ENTIRE MV FEEDER FROM MANHOLE #2 TO SWITCH 53 SHALL BE REMOVED. PROVIDE NEW DUCT BANK AS INDICATED ON SHEET ES101. PROVIDE MV FEEDERS: FROM MANHOLE #2 TO SWITCH 53.
 - 53-F2: (3) #4/0 15KV MV105
 - 53-F4: (3) #4/0 15KV MV105



1 MV SINGLE LINE DIAGRAM
SCALE: N.T.S.

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS

HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL PARK STREET, STONEHAM, MA 02180 PHONE: (781)275-6550	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246
CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881	ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990
ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLSAIR BEACH, FL 33786 PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
 M.E.P. & Structural Engineering
 A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
 CHERRY HILL, NEW JERSEY 08034
 PHONE: (856)439-4000
 FAX: (856)439-5002
 MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
 PROFESSIONAL ENGINEER

ANTHONY D. PACIARO
 LICENSED PROFESSIONAL ENGINEER
 26413
 KANSAS
 9.3.2021

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
ELECTRICAL MV SINGLE LINE DIAGRAM

Phase
100% BID SET

Project Title
INSTALL NEW BOILERS IN BUILDING 13

Project Number
589A7-18-302

Building Number

Drawing Number
E-600

Approved: Project Director

Issue Date
2021-09-03

Checked
ARH

Drawn
ARH

Location
ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS

Issue Date
2021-09-03

Checked
ARH

Drawn
ARH

WIRE AND CONDUIT SIZING SCHEDULE

1. CONDUIT SIZES SHOWN ARE TYPICAL FOR CONDUCTOR SIZES AND QUANTITY. CONDUIT AND WIRE SIZE NOTED ON THE ELECTRICAL FLOOR PLANS AND SINGLE LINE TAKE PRECEDENCE.

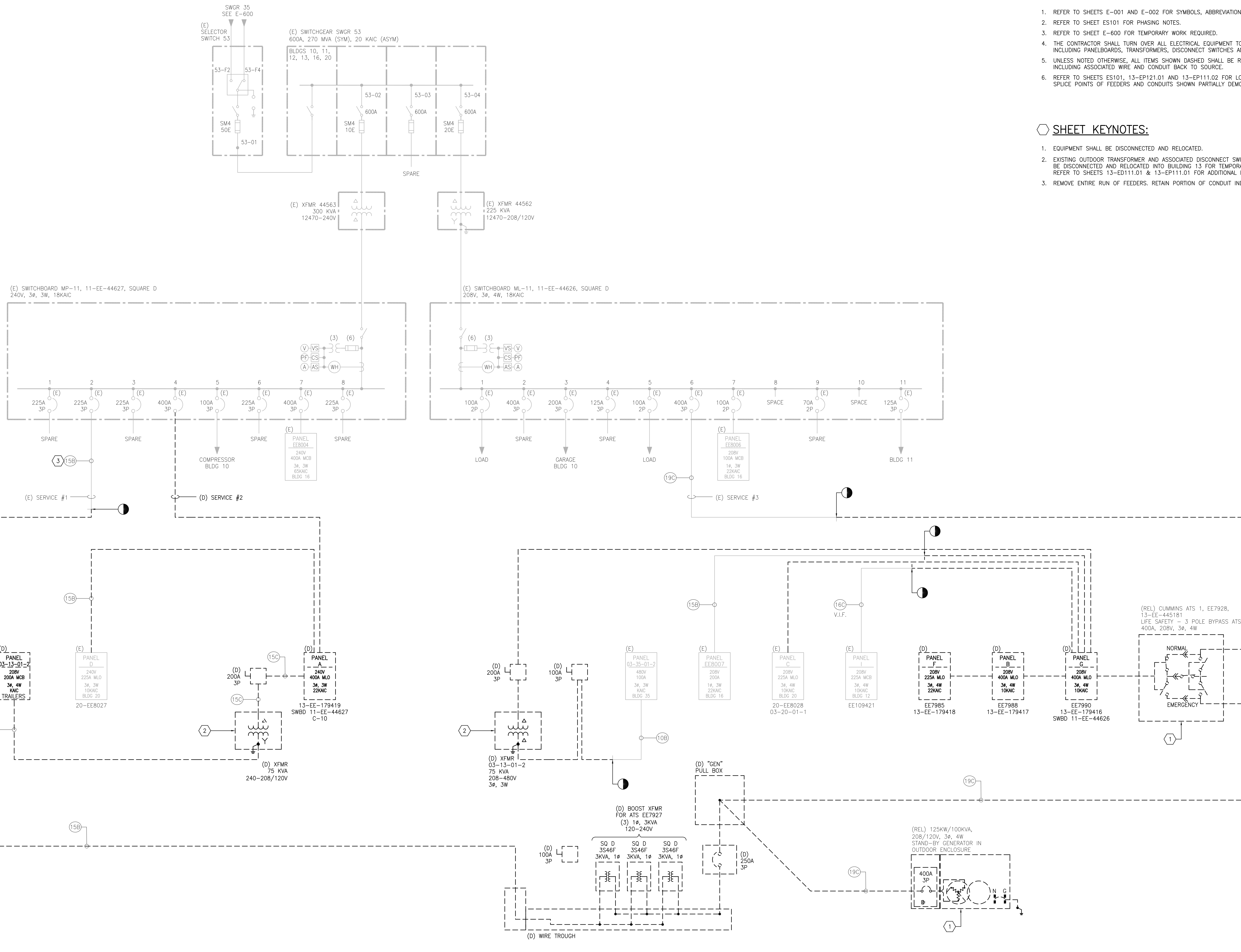
SINGLE LINE TAG: THIS COLUMN COMBINED WITH "A", "B", OR "C" COLUMN	WIRE SIZE (AWG/KCMIL)		NO. OF WIRES & CONDUIT SIZE IN INCHES		
	CONDUCTOR PHASE & NEUTRAL	GROUND	A 1PH, 2W+G	B 3PH, 3W+G	C 3PH, 4W+G
1	14	14	3/4 [21]	3/4 [21]	3/4 [21]
2	12	12	3/4 [21]	3/4 [21]	3/4 [21]
3	10	10	3/4 [21]	3/4 [21]	3/4 [21]
4	8	10	3/4 [21]	3/4 [21]	1 [27]
5	6	10	3/4 [21]	1 [27]	1 [27]
6	4	10	3/4 [21]	1 [27]	1-1/4 [35]
7	4	8	1 [27]	1 [27]	1-1/4 [35]
8	3	8	1 [27]	1 [27]	1-1/4 [35]
9	2	8	1 [27]	1-1/4 [35]	1-1/4 [35]
10	1	8	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
11	1	6	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
12	1	6	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
13	1/0	6	1-1/4 [35]	1-1/2 [41]	1-1/2 [41]
14	2/0	6	1-1/2 [41]	2 [53]	2 [53]
15	3/0	6	1-1/2 [41]	2 [53]	2 [53]
16	4/0	4	1-1/2 [41]	2 [53]	2-1/2 [63]
17	250	4	2 [53]	2-1/2 [63]	2-1/2 [63]
18	350	4	2-1/2 [63]	2-1/2 [63]	3 [78]
19	500	2	2-1/2 [63]	3 [78]	3 [78]
20	600	3		4 [103]	4 [103]
21	(2) 4/0	(2) 2	(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]
22	(2) 250	(2) 2	(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]
23	(2) 350	(2) 1/0	(2) 2-1/2 [63]	(2) 3 [78]	(2) 3 [78]
24	(2) 500	(2) 1/0	(2) 3 [78]	(2) 3-1/2 [91]	(2) 3-1/2 [91]
25	(3) 300	(3) 1/0	(3) 2-1/2 [63]	(3) 3 [78]	(3) 3 [78]
26	(3) 400	(3) 2/0	(3) 3 [78]	(3) 3 [78]	(3) 3 [78]
27	(4) 350	(4) 3/0	(4) 2-1/2 [63]	(4) 3 [78]	(4) 3 [78]
28	(5) 400	(5) 4/0	(5) 3 [78]	(5) 3 [78]	(5) 3 [78]
29	(6) 400	(6) 250	(6) 3 [78]	(6) 3 [78]	(6) 3 [78]
30	(7) 500	(7) 350	(7) 3 [78]	(7) 3-1/2 [91]	(7) 3-1/2 [91]
31	(8) 500	(8) 400	(8) 3 [78]	(8) 3-1/2 [91]	(8) 3-1/2 [91]
EX	EXISTING FEEDERS AND CONDUIT				

GENERAL SHEET NOTES:

- REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
- REFER TO SHEET ES101 FOR PHASING NOTES.
- REFER TO SHEET E-600 FOR TEMPORARY WORK REQUIRED.
- THE CONTRACTOR SHALL TURN OVER ALL ELECTRICAL EQUIPMENT TO THE VA INCLUDING PANELBOARDS, TRANSFORMERS, DISCONNECT SWITCHES AND ATS.
- UNLESS NOTED OTHERWISE, ALL ITEMS SHOWN DASHED SHALL BE REMOVED INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE.
- REFER TO SHEETS ES101, 13-EP121.01 AND 13-EP111.02 FOR LOCATION OF SPLICE POINTS OF FEEDERS AND CONDUITS SHOWN PARTIALLY DEMOLISHED.

SHEET KEYNOTES:

- EQUIPMENT SHALL BE DISCONNECTED AND RELOCATED.
- EXISTING OUTDOOR TRANSFORMER AND ASSOCIATED DISCONNECT SWITCH(ES) SHALL BE DISCONNECTED AND RELOCATED INTO BUILDING 13 FOR TEMPORARY USAGE. REFER TO SHEETS 13-ED111.01 & 13-EP111.01 FOR ADDITIONAL INFORMATION.
- REMOVE ENTIRE RUN OF FEEDERS. RETAIN PORTION OF CONDUIT INDICATED.



WIRE AND CONDUIT SIZING SCHEDULE

1. CONDUIT SIZES SHOWN ARE TYPICAL FOR CONDUCTOR SIZES AND QUANTITY. CONDUIT AND WIRE SIZE NOTED ON THE ELECTRICAL FLOOR PLANS AND SINGLE LINE TAKE PRECEDENCE.

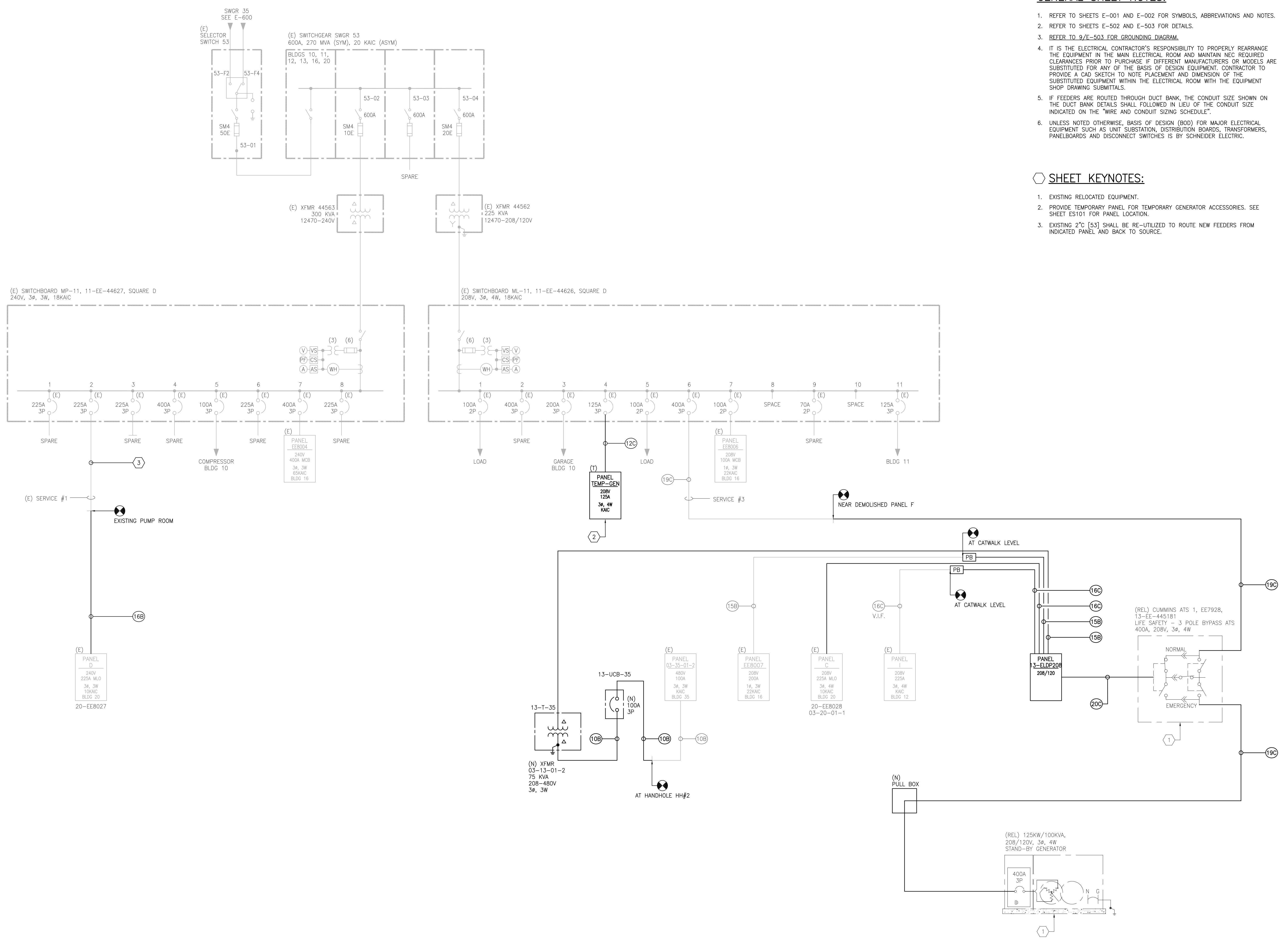
SINGLE LINE TAG: THIS COLUMN COMBINED WITH "A", "B", OR "C" COLUMN	WIRE SIZE (AWG/KCMIL)			NO. OF WIRES & CONDUIT SIZE IN INCHES		
	CONDUCTOR PHASE & NEUTRAL	GROUND		A 1PH, 2W+G	B 3PH, 3W+G	C 3PH, 4W+G
1	14	14		3/4 [21]	3/4 [21]	3/4 [21]
2	12	12		3/4 [21]	3/4 [21]	3/4 [21]
3	10	10		3/4 [21]	3/4 [21]	3/4 [21]
4	8	10		3/4 [21]	3/4 [21]	1 [27]
5	6	10		3/4 [21]	1 [27]	1 [27]
6	4	10		3/4 [21]	1 [27]	1-1/4 [35]
7	4	8		1 [27]	1 [27]	1-1/4 [35]
8	3	8		1 [27]	1 [27]	1-1/4 [35]
9	2	8		1 [27]	1-1/4 [35]	1-1/4 [35]
10	1	8		1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
11	1	6		1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
12	1	6		1-1/4 [35]	1-1/4 [35]	1-1/2 [41]
13	1/0	6		1-1/4 [35]	1-1/2 [41]	1-1/2 [41]
14	2/0	6		1-1/2 [41]	2 [53]	2 [53]
15	3/0	6		1-1/2 [41]	2 [53]	2 [53]
16	4/0	4		1-1/2 [41]	2 [53]	2-1/2 [63]
17	250	4		2 [53]	2-1/2 [63]	2-1/2 [63]
18	350	4		2-1/2 [63]	2-1/2 [63]	3 [78]
19	500	2		2-1/2 [63]	3 [78]	3 [78]
20	600	3			4 [103]	4 [103]
21	(2) 4/0	(2) 2		(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]
22	(2) 250	(2) 2		(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]
23	(2) 350	(2) 1/0		(2) 2-1/2 [63]	(2) 3 [78]	(2) 3 [78]
24	(2) 500	(2) 1/0		(2) 3 [78]	(2) 3-1/2 [91]	(2) 3-1/2 [91]
25	(3) 300	(3) 1/0		(3) 2-1/2 [63]	(3) 3 [78]	(3) 3 [78]
26	(3) 400	(3) 2/0		(3) 3 [78]	(3) 3 [78]	(3) 3 [78]
27	(4) 350	(4) 3/0		(4) 2-1/2 [63]	(4) 3 [78]	(4) 3 [78]
28	(5) 400	(5) 4/0		(5) 3 [78]	(5) 3 [78]	(5) 3 [78]
29	(6) 400	(6) 250		(6) 3 [78]	(6) 3 [78]	(6) 3 [78]
30	(7) 500	(7) 350		(7) 3 [78]	(7) 3-1/2 [91]	(7) 3-1/2 [91]
31	(8) 500	(8) 400		(8) 3 [78]	(8) 3-1/2 [91]	(8) 3-1/2 [91]
EX	EXISTING FEEDERS AND CONDUIT					

GENERAL SHEET NOTES:

- REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
- REFER TO SHEETS E-502 AND E-503 FOR DETAILS.
- REFER TO 9/E-503 FOR GROUNDING DIAGRAM.
- IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROPERLY REARRANGE THE EQUIPMENT IN THE MAIN ELECTRICAL ROOM AND MAINTAIN NEC REQUIRED CLEARANCES PRIOR TO PURCHASE IF DIFFERENT MANUFACTURERS OR MODELS ARE SUBSTITUTED FOR ANY OF THE BASIS OF DESIGN EQUIPMENT. CONTRACTOR TO PROVIDE A CAD SKETCH TO NOTE PLACEMENT AND DIMENSION OF THE SUBSTITUTED EQUIPMENT WITHIN THE ELECTRICAL ROOM WITH THE EQUIPMENT SHOP DRAWING SUBMITTALS.
- IF FEEDERS ARE ROUTED THROUGH DUCT BANK, THE CONDUIT SIZE SHOWN ON THE DUCT BANK DETAILS SHALL FOLLOWED IN LIEU OF THE CONDUIT SIZE INDICATED ON THE "WIRE AND CONDUIT SIZING SCHEDULE".
- UNLESS NOTED OTHERWISE, BASIS OF DESIGN (BOD) FOR MAJOR ELECTRICAL EQUIPMENT SUCH AS UNIT SUBSTATION, DISTRIBUTION BOARDS, TRANSFORMERS, PANELBOARDS AND DISCONNECT SWITCHES IS BY SCHNEIDER ELECTRIC.

SHEET KEYNOTES:

- EXISTING RELOCATED EQUIPMENT.
- PROVIDE TEMPORARY PANEL FOR TEMPORARY GENERATOR ACCESSORIES. SEE SHEET ES101 FOR PANEL LOCATION.
- EXISTING 2" C [53] SHALL BE RE-UTILIZED TO ROUTE NEW FEEDERS FROM INDICATED PANEL AND BACK TO SOURCE.



1 NEW WORK - SINGLE LINE DIAGRAM
SCALE: N.T.S.

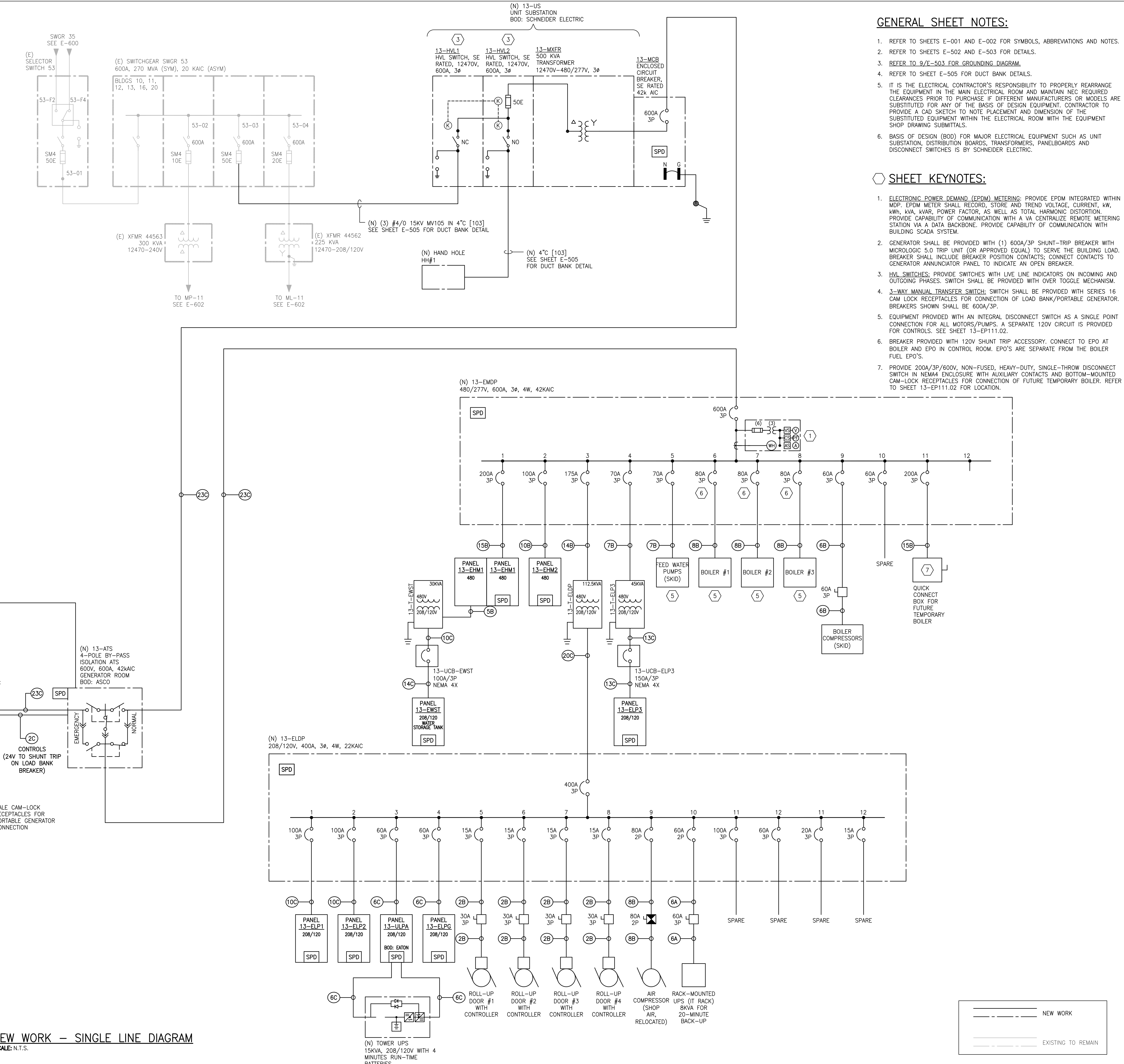
--- NEW WORK
--- EXISTING TO REMAIN

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.	CONSULTANTS HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-0550 CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891 ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100		FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246 ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990 PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232		ENGINEER OF RECORD Miller-Remick LLC M.E.P. & Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)439-4000 FAX: (856)439-9002 MR PROJECT NO: 0499-0121		MILLER-REMICK LLC PROFESSIONAL ENGINEER WILSONY D. PACARD LICENSED PROFESSIONAL ENGINEER 26413 KANSAS PROFESSIONAL ENGINEER 2/3/2021		Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs		Drawing Title ELECTRICAL NEW WORK SINGLE LINE DIAGRAM Approved: Project Director		Phase 100% BID SET FULLY SPRINKLERED		Project Title INSTALL NEW BOILERS IN BUILDING 13 Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS Issue Date 2021-09-03 Checked ARH Drawn ARH		Project Number 589A7-18-302 Building Number Drawing Number E-602	
	NO. DESCRIPTION DATE																	

WIRE AND CONDUIT SIZING SCHEDULE

1. CONDUIT SIZES SHOWN ARE TYPICAL FOR CONDUCTOR SIZES AND QUANTITY. CONDUIT AND WIRE SIZE NOTED ON THE ELECTRICAL FLOOR PLANS AND SINGLE LINE TAKE PRECEDENCE.

SINGLE LINE TAG THIS COLUMN COMBINED WITH "A", "B", OR "C" COLUMN	WIRE SIZE (AWG/KCMIL)			NO. OF WIRES & CONDUIT SIZE IN INCHES		
	CONDUCTOR PHASE & NEUTRAL	GROUND		A	B	C
				1PH, 2W+G	3PH, 3W+G	3PH, 4W+G
1	14	14	3/4 [21]	3/4 [21]	3/4 [21]	
2	12	12	3/4 [21]	3/4 [21]	3/4 [21]	
3	10	10	3/4 [21]	3/4 [21]	3/4 [21]	
4	8	10	3/4 [21]	3/4 [21]	1 [27]	
5	6	10	3/4 [21]	1 [27]	1 [27]	
6	4	10	3/4 [21]	1 [27]	1-1/4 [35]	
7	4	8	1 [27]	1 [27]	1-1/4 [35]	
8	3	8	1 [27]	1 [27]	1-1/4 [35]	
9	2	8	1 [27]	1-1/4 [35]	1-1/4 [35]	
10	1	8	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]	
11	1	6	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]	
12	1	6	1-1/4 [35]	1-1/4 [35]	1-1/2 [41]	
13	1/0	6	1-1/4 [35]	1-1/2 [41]	1-1/2 [41]	
14	2/0	6	1-1/2 [41]	2 [53]	2 [53]	
15	3/0	6	1-1/2 [41]	2 [53]	2 [53]	
16	4/0	4	1-1/2 [41]	2 [53]	2-1/2 [63]	
17	250	4	2 [53]	2-1/2 [63]	2-1/2 [63]	
18	350	4	2-1/2 [63]	2-1/2 [63]	3 [78]	
19	500	2	2-1/2 [63]	3 [78]	3 [78]	
20	600	3	2-1/2 [63]	4 [103]	4 [103]	
21	(2) 4/0	(2) 2	(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]	
22	(2) 250	(2) 2	(2) 2 [53]	(2) 2-1/2 [63]	(2) 2-1/2 [63]	
23	(2) 350	(2) 1/0	(2) 2-1/2 [63]	(2) 3 [78]	(2) 3 [78]	
24	(2) 500	(2) 1/0	(2) 3 [78]	(2) 3-1/2 [91]	(2) 3-1/2 [91]	
25	(3) 300	(3) 1/0	(3) 2-1/2 [63]	(3) 3 [78]	(3) 3 [78]	
26	(3) 400	(3) 2/0	(3) 3 [78]	(3) 3 [78]	(3) 3 [78]	
27	(4) 350	(4) 3/0	(4) 2-1/2 [63]	(4) 3 [78]	(4) 3 [78]	
28	(5) 400	(5) 4/0	(5) 3 [78]	(5) 3 [78]	(5) 3 [78]	
29	(6) 400	(6) 250	(6) 3 [78]	(6) 3 [78]	(6) 3 [78]	
30	(7) 500	(7) 350	(7) 3 [78]	(7) 3-1/2 [91]	(7) 3-1/2 [91]	
31	(8) 500	(8) 400	(8) 3 [78]	(8) 3-1/2 [91]	(8) 3-1/2 [91]	
EX	EXISTING FEEDERS AND CONDUIT					



1 NEW WORK - SINGLE LINE DIAGRAM
SCALE: N.T.S.

GENERAL SHEET NOTES:

- REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
- REFER TO SHEETS E-502 AND E-503 FOR DETAILS.
- REFER TO 9/E-503 FOR GROUNDING DIAGRAM.
- REFER TO SHEET E-505 FOR DUCT BANK DETAILS.
- IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROPERLY REARRANGE THE EQUIPMENT IN THE MAIN ELECTRICAL ROOM AND MAINTAIN NEC REQUIRED CLEARANCES PRIOR TO PURCHASE IF DIFFERENT MANUFACTURERS OR MODELS ARE SUBSTITUTED FOR ANY OF THE BASIS OF DESIGN EQUIPMENT. CONTRACTOR TO PROVIDE A CAD SKETCH TO NOTE PLACEMENT AND DIMENSION OF THE SUBSTITUTED EQUIPMENT WITHIN THE ELECTRICAL ROOM WITH THE EQUIPMENT SHOP DRAWING SUBMITTALS.
- BASIS OF DESIGN (BOD) FOR MAJOR ELECTRICAL EQUIPMENT SUCH AS UNIT SUBSTATION, DISTRIBUTION BOARDS, TRANSFORMERS, PANELBOARDS AND DISCONNECT SWITCHES IS BY SCHNEIDER ELECTRIC.

SHEET KEYNOTES:

- ELECTRONIC POWER DEMAND (EPDM) METERING: PROVIDE EPDM INTEGRATED WITHIN MDP. EPDM METER SHALL RECORD, STORE AND TEND VOLTAGE, CURRENT, KW, KWH, KVAR, POWER FACTOR, AS WELL AS TOTAL HARMONIC DISTORTION. PROVIDE CAPABILITY OF COMMUNICATION WITH A VA CENTRALIZE REMOTE METERING STATION VIA A DATA BACKBONE. PROVIDE CAPABILITY OF COMMUNICATION WITH BUILDING SCADA SYSTEM.
- GENERATOR SHALL BE PROVIDED WITH (1) 600A/3P SHUNT-TRIP BREAKER WITH MICROLOGIC 5.0 TRIP UNIT (OR APPROVED EQUAL) TO SERVE THE BUILDING LOAD. BREAKER SHALL INCLUDE BREAKER POSITION CONTACTS; CONNECT CONTACTS TO GENERATOR ANNUNCIATOR PANEL TO INDICATE AN OPEN BREAKER.
- HV SWITCHES: PROVIDE SWITCHES WITH LIVE LINE INDICATORS ON INCOMING AND OUTGOING PHASES. SWITCH SHALL BE PROVIDED WITH OVER TOGGLE MECHANISM.
- 3-WAY MANUAL TRANSFER SWITCH: SWITCH SHALL BE PROVIDED WITH SERIES 16 CAM LOCK RECEPTACLES FOR CONNECTION OF LOAD BANK/PORABLE GENERATOR. BREAKERS SHOWN SHALL BE 600A/3P.
- EQUIPMENT PROVIDED WITH AN INTEGRAL DISCONNECT SWITCH AS A SINGLE POINT CONNECTION FOR ALL MOTORS/PUMPS. A SEPARATE 120V CIRCUIT IS PROVIDED FOR CONTROLS. SEE SHEET 13-EP11.02.
- BREAKER PROVIDED WITH 120V SHUNT TRIP ACCESSORY. CONNECT TO EPO AT BOILER AND EPO IN CONTROL ROOM. EPO'S ARE SEPARATE FROM THE BOILER FUEL EPO'S.
- PROVIDE 200A/3P/600V, NON-FUSED, HEAVY-DUTY, SINGLE-THROW DISCONNECT SWITCH IN NEMA4 ENCLOSURE WITH AUXILIARY CONTACTS AND BOTTOM-MOUNTED CAM-LOCK RECEPTACLES FOR CONNECTION OF FUTURE TEMPORARY BOILER. REFER TO SHEET 13-EP11.02 FOR LOCATION.

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

CONSULTANTS

HAZARDOUS MATERIALS
MABBETT & ASSOCIATES, INC.
105 CENTRAL STREET, STONEHAM, MA 02180
PHONE: (781)275-6950

CIVIL/STRUCTURAL
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA, WICHITA, KS 67202
PHONE: (316)282-2881

ARCHITECTURAL
OCULUS INC.
1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102
PHONE: (314)367-6100

FIRE SUPPRESSION
KOFFEL ASSOCIATES
8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045
PHONE: (410)729-2246

ELECTRONIC SECURITY
MAGNA ENGINEERS
861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503
PHONE: (859)306-2990

PHYSICAL SECURITY
FORCE PROTECT
3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786
PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business
1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)439-4000
FAX: (856)439-9002
MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

WILSONY D. PACIO
LICENSED PROFESSIONAL ENGINEER
26413
KANSAS
9.3.2021

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
ELECTRICAL NEW WORK SINGLE LINE DIAGRAM

Approved: Project Director

Phase
100% BID SET

FULLY SPRINKLERED

Project Title
INSTALL NEW BOILERS IN BUILDING 13

Location
ROBERT J. DOLE VA MEDICAL CENTER
WICHITA, KANSAS

Issue Date
2021-09-03

Checked
ARH

Drawn
ARH

Project Number
589A7-18-302

Building Number

Drawing Number
E-603

GENERAL SHEET NOTES:

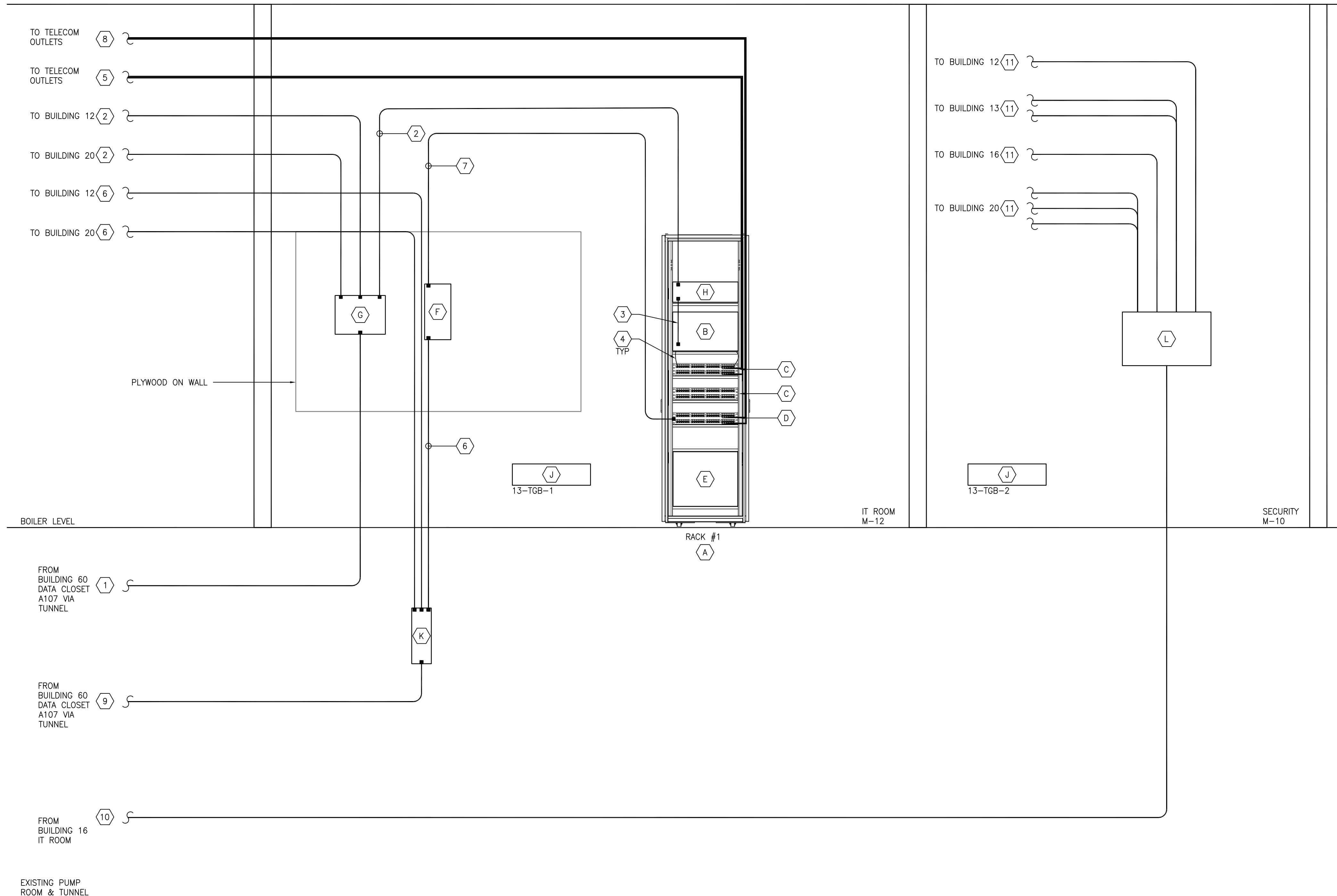
1. REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
2. REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF DEVICES AND OUTLETS.
3. REFER TO FLOOR PLANS FOR ROUTING OF FIBER OPTIC CABLES AND TELEPHONE CABLES.

TELECOMMUNICATION EQUIPMENT SCHEDULE

TAG	EQUIPMENT NAME	PROVIDED AND INSTALLED BY	NOTES
A	45RU FLOOR-MOUNT 24"W x 30"D x 7'H [610 x 762 x 2134] WITH 19" RAILS, WHITE.	CONTRACTOR	RACK PER EHRM REQUIREMENTS
B	NETWORK SWITCH	CONTRACTOR	
C	24 PORT CATEGORY 6A SHIELDED PUNCH DOWN PATCH PANEL	CONTRACTOR	QUANTITY PER RACK AS SHOWN
D	24 PORT CATEGORY 6A PUNCH DOWN PATCH PANEL FOR TELEPHONE CABLES	CONTRACTOR	
E	6U RACK-MOUNTED 8000VA UPS WITH 2U 120V STEP-DOWN TRANSFORMER PROVIDES 120 MINUTES OF BACKUP	CONTRACTOR	CONFIRM REQUIREMENTS WITH VA IT DEPARTMENT
F	TELEPHONE SURGE ARRESTER	CONTRACTOR	
G	FIBER OPTIC BREAK OUT PANEL	CONTRACTOR	ENCLOSURE WALL MOUNT FIBER BOX PATCH PANEL TO HOUSE FIBER OPTIC (BREAK OUT PANEL). CONNECTIONS SHALL BE DONE IN MULTIMODE OPTICAL FIBER, PER VA SPECS/ PAIR TERMINATION.
H	FIBER OPTIC DISTRIBUTION PANEL (DATA)	CONTRACTOR	
J	TELECOMM GROUNDING BUSBAR (TGB)	CONTRACTOR	SEE GROUNDING DETAIL 7/E-503 FOR ALL GROUNDING WIRE SIZE AND TERMINATION POINTS.
K	TELEPHONE SPLICE ENCLOSURE	EXISTING	
L	(REL) AMPLIFIER	EXISTING	RELOCATED AMPLIFIER. RECONNECT TO MATCH EXISTING.

TELECOMMUNICATION CABLING SCHEDULE

TAG	CABLE ROUTING		UL RATING	CABLE TYPE	LENGTH	TERMINATION	NOTES
	FROM	TO EQUIPMENT IN TELECOMM ROOM					
1	BLDG 60, DATA CLOSET A107	FIBER OPTIC BREAK OUT PANEL	PLENUM	NEW FIBER OPTIC CABLE (BLACK)	---	LC	ROUTE THROUGH TUNNEL AND EXISTING RACEWAY PREVIOUSLY UTILIZED FOR DEMOLISHED FIBER OPTIC CABLE
2	FIBER OPTIC BREAK OUT PANEL	FIBER OPTIC DISTRIBUTION PANEL (DATA)	PLENUM	(1) 12-STRAND MULTIMODE MODE PLENUM RATED RISER FIBER OPTIC OFN-FT6 62.5/125 TYPE OFNP	FIELD MEASURE	PER VA IT DEPARTMENT	PROVIDE (1)#66 RUN WITH TELEPHONE CABLE
3	FIBER OPTIC DISTRIBUTION PANEL (DATA)	NETWORK SWITCH	PLENUM	FO PATCH CORD	FIELD MEASURE	PER VA FMS DEPARTMENT	CONNECTIONS AND CABLING BY VA IT DEPARTMENT.
4	RACK	NETWORK SWITCH	NON-PLENUM	SR COPPER CORD - SHORT LENGTH (1) 4-PAIR CAT 6A (F/UTP)	7'-0" [2134]	CAT 6A T568 PLUG EACH END	CONNECTIONS AND CABLING BY VA IT DEPARTMENT.
5	PATCH PANEL (TELEPHONE)	TELECOMM OUTLETS	---	(1) 4-PAIR CAT 6A (F/UTP)	---	---	INDOOR COPPER CABLING FOR BACKBONE HORIZONTAL CONNECTIONS TO DESIGNATED FLOOR. TYPICAL CABLING CONNECTION PER EACH PUNCH DOWN PATCH PANEL MOUNTED ON WALL
6	TELEPHONE SPLICE ENCLOSURE	DATA SURGE ARRESTER	---	COPPER HORIZONTAL CABLING (TELEPHONE)	---	---	PROVIDE (1)#66 RUN WITH TELEPHONE CABLE FROM EXISTING GROUNDING LUGS AT SPLICE ENCLOSURE TO SURGE ARRESTER.
7	DATA SURGE ARRESTER	PATCH PANEL (TELEPHONE)	---	COPPER HORIZONTAL CABLING (TELEPHONE)	---	---	MATCH EXISTING
8	PATCH PANEL (TELEPHONE)	TELECOMM OUTLETS	---	(1) 4-PAIR CAT 6A (F/UTP)	---	---	INDOOR COPPER CABLING FOR BACKBONE HORIZONTAL CONNECTIONS TO DESIGNATED FLOOR. TYPICAL CABLING CONNECTION PER EACH PUNCH DOWN PATCH PANEL MOUNTED ON WALL
9	BLDG 60, DATA CLOSET A107	TELEPHONE SPLICE ENCLOSURE	---	EXISTING COPPER HORIZONTAL CABLING (TELEPHONE)	---	---	
10	BLDG 16, IT CLOSET	(REL) AMPLIFIER	PLENUM	(1) 6-STRAND MULTIMODE MODE PLENUM RATED RISER FIBER OPTIC OFN-FT6 62.5/125 TYPE OFNP	---	LC	FIBER OPTIC CABLE SHALL MATCH EXISTING. AMPLIFIER IS EXISTING AND RELOCATED
11	(REL) AMPLIFIER	TV OUTLETS	PLENUM	RG6	---	F	PROVIDE 8-PORT TAP FOR CONNECTION OF RG6 CABLES AT THE OUTPUT OF THE AMPLIFIER



1 NEW WORK -- TELECOM RISER
SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS	
HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6550 CIVIL/STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881 ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246 ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990 PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLAIR BEACH, FL 33786 PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)429-4000
FAX: (856)429-5002
MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ANTHONY D. PACIARO
LICENSED PROFESSIONAL ENGINEER
KANSAS
26413
9.3.2021

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title ELECTRICAL TELECOM RISER DIAGRAM	Phase 100% BID SET
Approved: Project Director	FULLY SPRINKLERED

Project Title INSTALL NEW BOILERS IN BUILDING 13	Project Number 589A7-18-302
Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS	Building Number 13
Issue Date 2021-09-03	Checked ARH
Drawn ARH	Drawing Number E-604

P:\0499_DVA\0499-0121 Wichita - Boiler\Submittal Phase\8_Electrical\E-604_E-605 - TELECOM, FIRE ALARM.dwg 9-08-21 01:32:20 PM ah1bbi

FIRE ALARM SYSTEM INPUT OUTPUT SEQUENCE OF OPERATIONS MATRIX

INPUT DEVICE	1	2	3	4	5	6	7	8	9	8
DUCT SMOKE DETECTOR*				X						
AREA SMOKE DETECTOR*	X	X	X				X (a)			X
DOOR RELEASE SMOKE DETECTOR*	X	X	X		X	X				X
MANUAL PULL STATION	X	X	X		X	X				X
GENERATOR ROOM HEAT DETECTOR	X	X	X							X
GENERATOR ROOM FLAME DETECTOR	X	X	X							X
SPRINKLER WATERFLOW / PRESSURE SWITCH	X	X	X		X					X
WATER CONTROL VALVE TAMPER				X						X

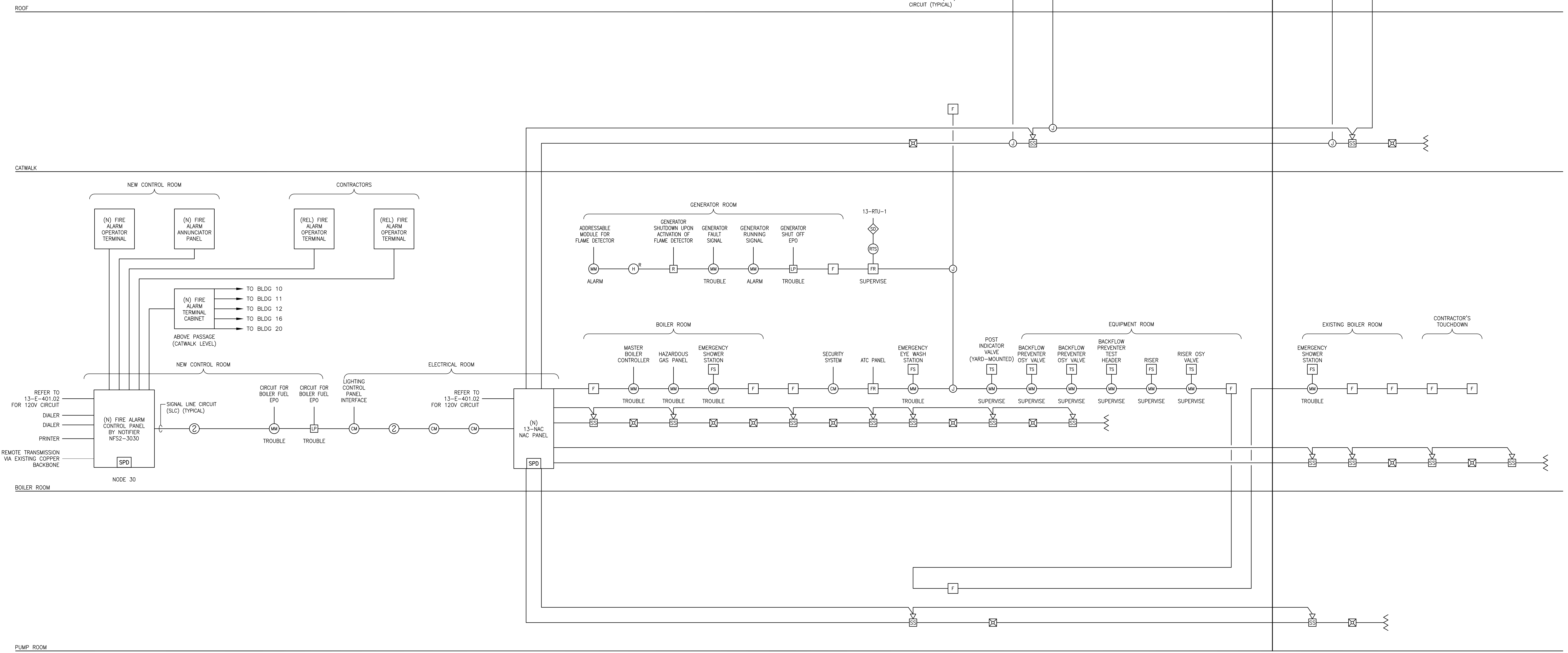
NOTES:
 * - WHILE NFPA 101 DOES NOT REQUIRE SOME DETECTORS TO NOTIFY BUILDING OCCUPANTS, VA REQUIRES ALL SMOKE DETECTORS, OTHER THAN DUCT DETECTORS, TO NOTIFY BUILDING OCCUPANTS. ONLY INSTALL SMOKE DETECTORS WHEN REQUIRED BY THE LIFE SAFETY CODE OR ITS REFERENCES.
 ** - THOSE DOORS THAT ARE REQUIRED TO BE TIED TO THE FIRE ALARM SYSTEM SUCH AS DELAYED EGRESS AND ACCESS CONTROLLED DOORS.
 (a) - DO NOT PROVIDE DUCT DETECTORS IN DEDICATED (100%) EXHAUST FANS. THEY SHOULD CONTINUE TO RUN.

PHASING NOTES:

1. THE EXISTING FACP SHALL REMAIN OPERATIONAL DURING PHASES 1 AND 2.
2. INSTALL THE NEW FACP DURING PHASE 2 AND FEED ALL OF THE EXTERNAL BUILDINGS TO THE NEW FACP.
3. BACK FEED THE EXISTING FACP TO THE NEW FACP TO PROVIDE TEMPORARY COVERAGE DURING DEMOLITION PHASE 3. RE-PROGRAM EXISTING FACP AS NEEDED.
4. REMOVE THE EXISTING FACP DURING PHASE 3 DEMOLITION AS LATE AS PRACTICALLY POSSIBLE.
5. RE-PROGRAM NEW FACP AFTER EACH PHASE AS NEEDED.

GENERAL SHEET NOTES:

1. REFER TO SHEETS E-001 AND E-002 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
2. REFER TO PLANS FOR QUANTITY AND LOCATION OF ALL DEVICES.
3. WIRE AND CONDUIT SIZES AS PER MANUFACTURER'S SPECIFICATIONS.
4. UNLESS NOTED OTHERWISE, ALL DEVICES AND EQUIPMENT SHOWN SHALL BE NEW.
5. THIS DIAGRAM IS INDICATIVE OF THE SYSTEM CONFIGURATION AND SHALL NOT BE USED FOR QUANTIFYING DEVICE NUMBERS.
6. MANUAL PULL STATIONS SHOWN AT EXIT DOORS SHALL BE WITHIN 5' [1524] OF SUCH DOORS. MANUAL PULL STATIONS SHALL BE LOCATED WITH NO MORE THAN 200' [60960] BETWEEN STATIONS IN THE PATH OF EGRESS.
7. FIRE ALARM WIRING SHALL BE INSTALLED TO MEET THE SURVIVABILITY REQUIREMENTS FOR NOTIFICATION CIRCUITS. IT SHALL MEET UL2196 FIRE TEST STANDARDS & ARE CLASSIFIED AS 24HR. FIRE RATED ELECTRICAL CIRCUIT PROTECTIVE SYSTEM.
8. RETURN LOOP SHALL NOT SHARE THE SAME CONDUIT AS THE OUTGOING LOOP.
9. ELECTRICAL CONTRACTOR SHALL VERIFY SLC AND NAC CIRCUIT CAPACITIES AND VOLTAGE DROP. PROVIDE ADDITIONAL POWER SUPPLY AND STROBE EXTENDER PANELS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
10. THE CONTRACTOR SHALL CONNECT ALL FIRE ALARM MODULES TO THE EQUIPMENT INDICATED AND SHALL ENSURE INTEGRATION OF SUCH SYSTEMS INTO THE FIRE ALARM SYSTEM (MONITORING POINTS AND ALARM POINTS).
11. PROGRAM DEVICES/ADDRESSES OF ADJACENT BUILDINGS PREVIOUSLY TIED INTO DEMOLISHED FACP.
12. THE NEW FACP SHALL MONITOR THE EXISTING SITE GENERATORS. PROGRAM/MONITOR TO MATCH EXISTING.
13. THE PROGRAMMING, MONITORING AND RESPONSE OF NEW FACP WITH RESPECT TO THE ADJACENT BUILDINGS AND SITE SHALL MATCH THE EXISTING SYSTEM.



1 NEW WORK - FIRE ALARM RISER
SCALE: NTS

PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

CONSULTANTS	
HAZARDOUS MATERIALS MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-0550 CIVIL / STRUCTURAL PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891 ARCHITECTURAL OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	FIRE SUPPRESSION KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)759-2246 ELECTRONIC SECURITY MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)306-2990 PHYSICAL SECURITY FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232

ENGINEER OF RECORD

Miller-Remick LLC
 M.E.P. & Structural Engineering
 A Service Disabled Veteran Owned Small Business
 1010 KINGS HIGHWAY SOUTH
 CHERRY HILL, NEW JERSEY 08034
 PHONE: (856)429-4000
 FAX: (856)429-9002
 MR PROJECT NO: 0499-0121

MILLER-REMICK LLC
PROFESSIONAL ENGINEER

ANTHONY D. PACIARO
LICENSED PROFESSIONAL ENGINEER
KANSAS
26413
9.3.2021

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
ELECTRICAL FIRE ALARM RISER DIAGRAM

Approved: Project Director

Phase
100% BID SET

FULLY SPRINKLERED

Project Title
INSTALL NEW BOILERS IN BUILDING 13

Location
ROBERT J. DOLE VA MEDICAL CENTER
WICHITA, KANSAS

Issue Date 2021-09-03	Checked ARH	Drawn ARH
--------------------------	----------------	--------------

Project Number
589A7-18-302

Building Number
13

Drawing Number
E-605